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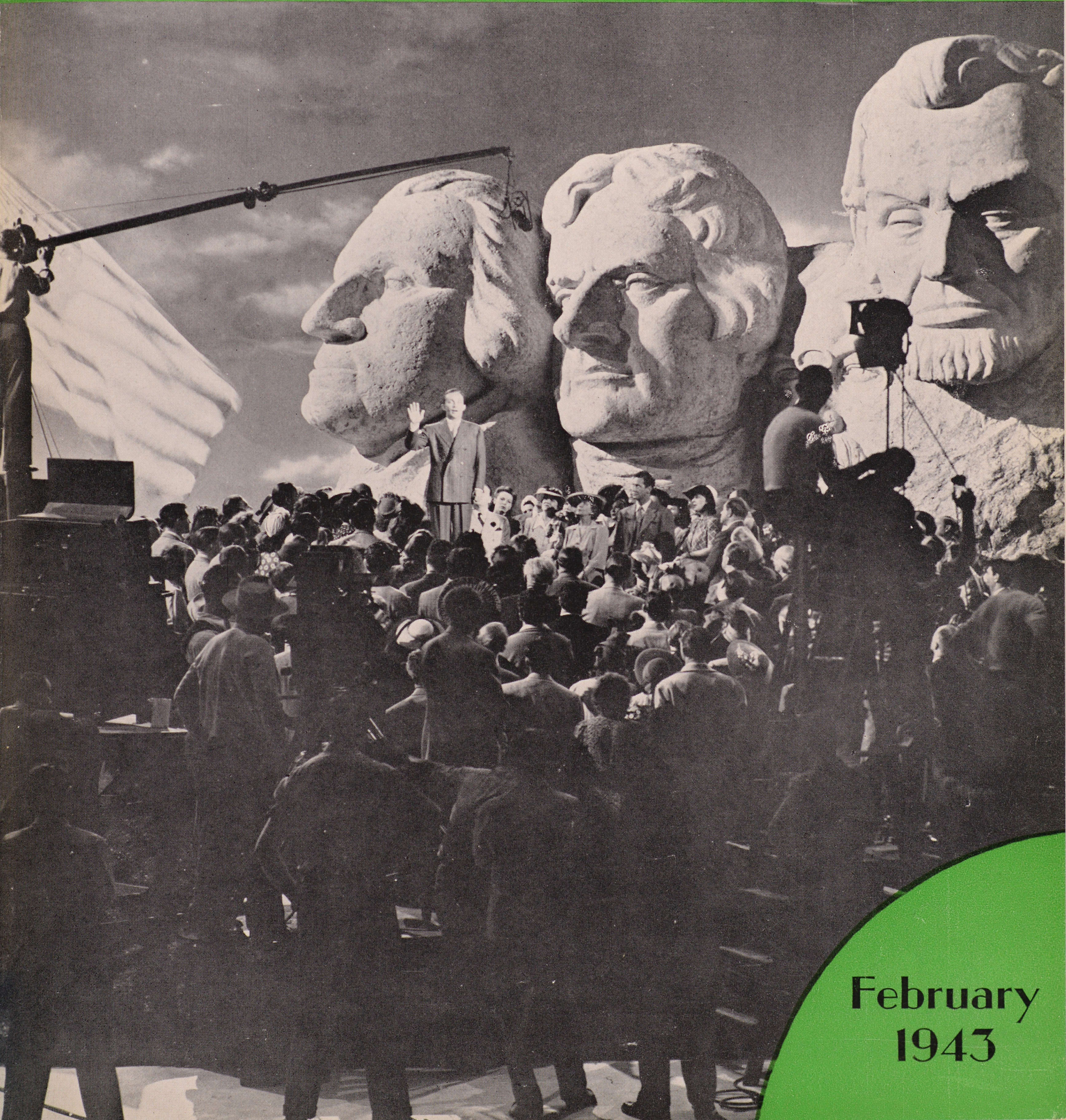

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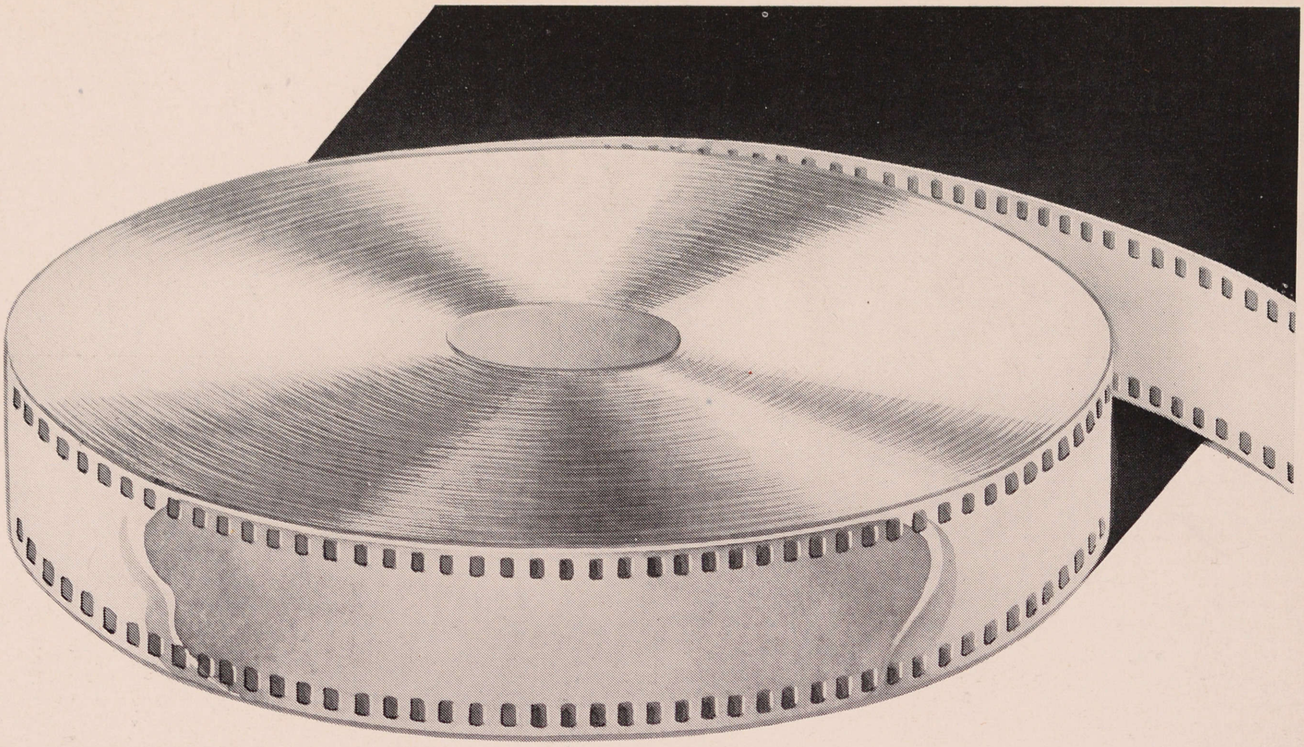

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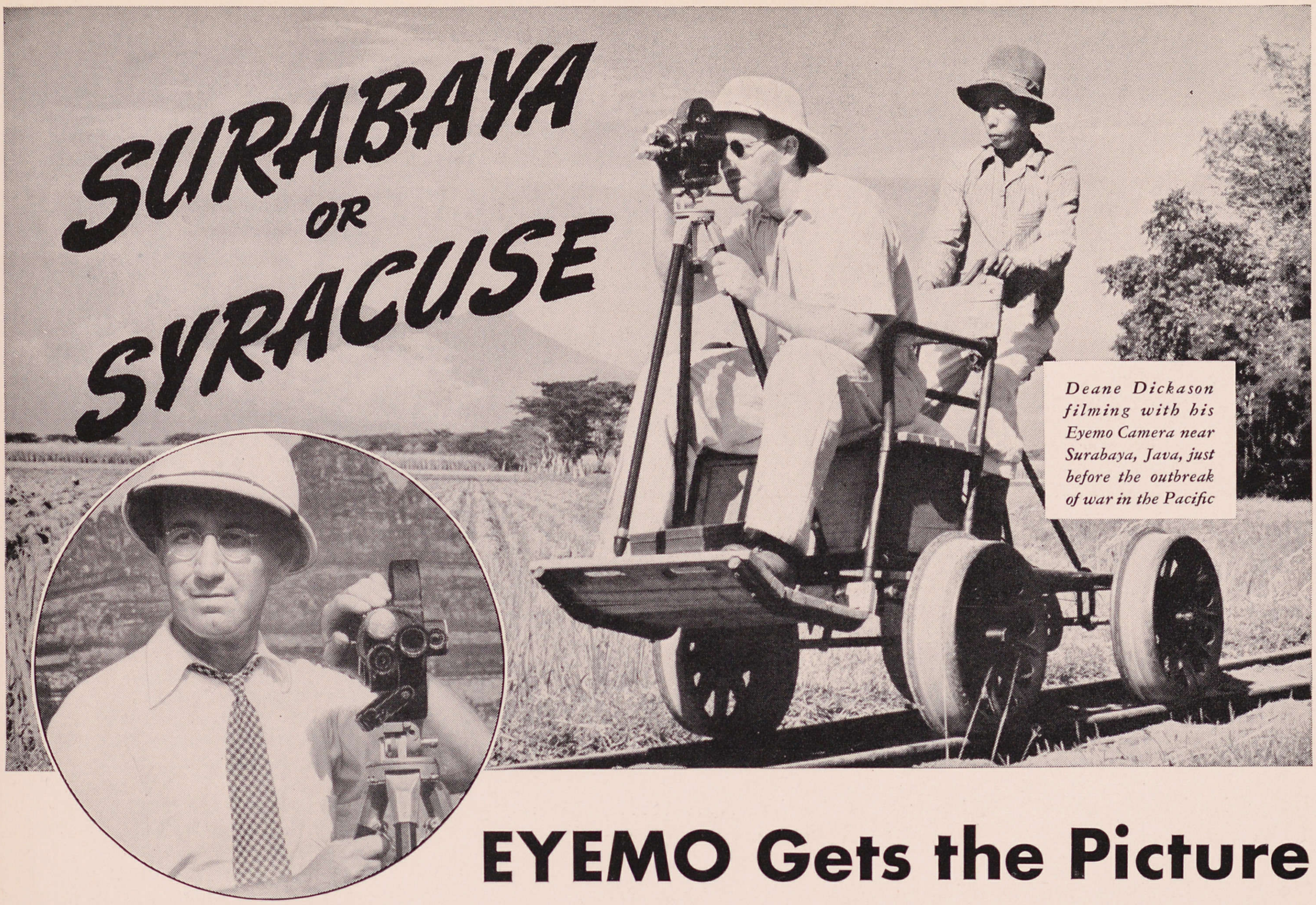

Deane Dickason filming with his Eyemo Camera near Surabaya, Java, just before the outbreak of war in the Pacific

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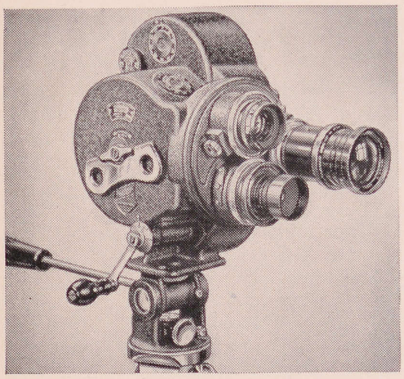

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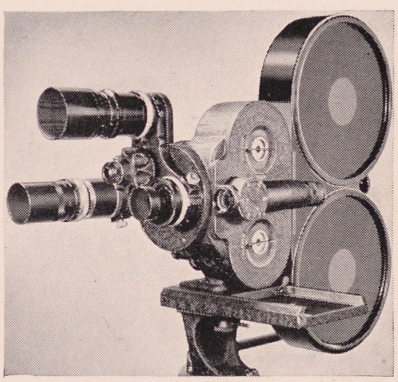

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THE MOTION PICTURE CAMERA MAGAZINE

VOL. 24 FEBRUARY, 1943 NO. 2

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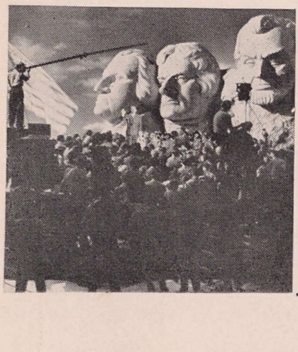

The Front Cover

This month's cover shows Lt. Leo Tover, A.S.C., filming the "Old Glory" number from Paramount's "Star-Spangled Rhythm." If you look closely, you'll find the camera about an inch below George Washington's jaw, shooting a close-up of Bing Crosby. Notice microphone used to check "sync" of Crosby's singing with playback of pre-recorded soundtrack from playback loudspeaker at left.

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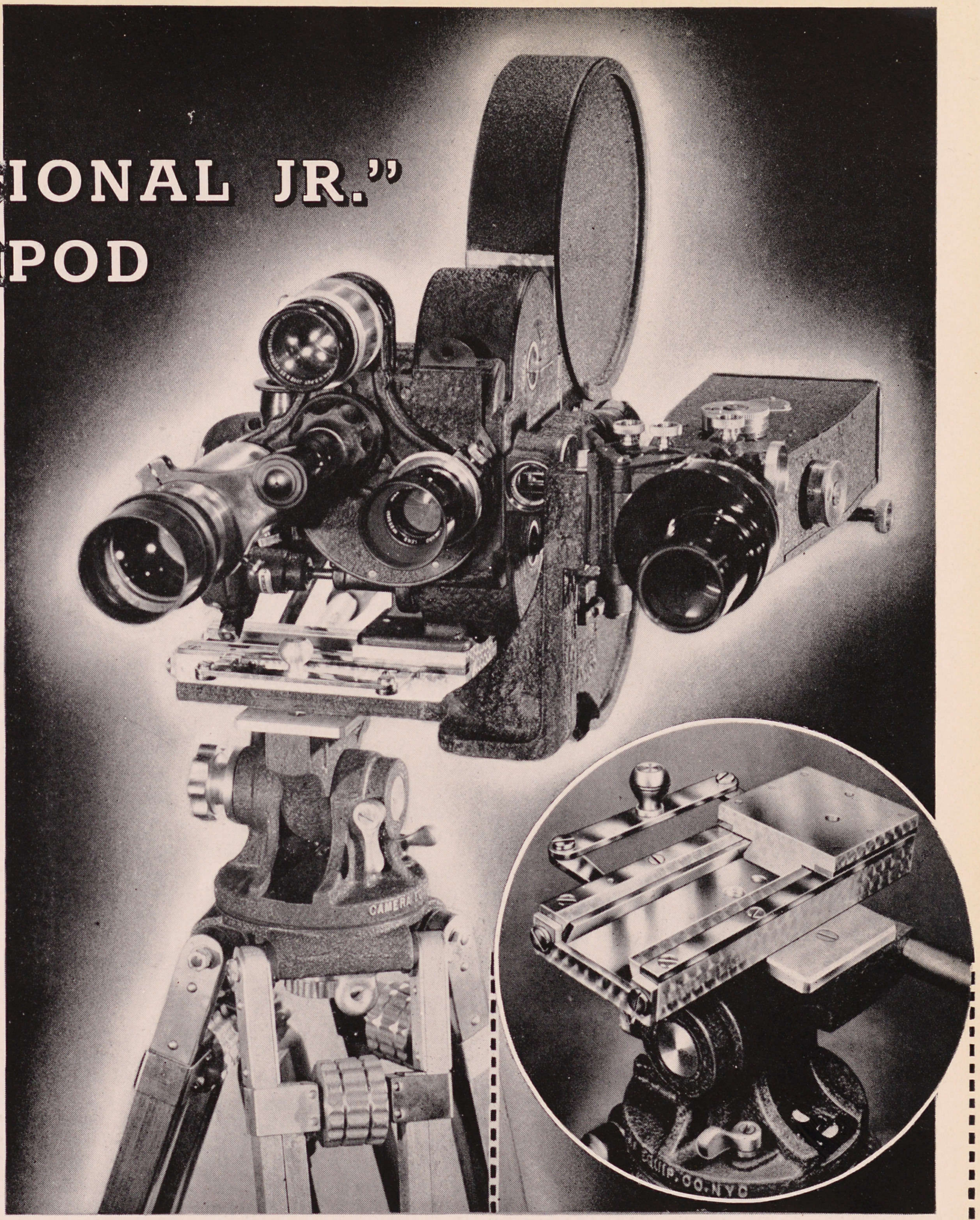
"PROFESSIONAL JR." TRIPOD



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★ The Shiftover has a "stop-bracket" which prevents the camera from sliding off the dovetail base — and is provided with dowel pins which position it to top-plates of tripods having 3/8 or 1/4-20 camera fastening screw.

Will There Be
CAMERAMAN-DIRECTORS IN TELEVISION PRODUCTION?

By EDWARD ANHALT

Chief Cameraman, CBS Television Studios, New York

AS we have described them, the four basic types of television shows may be described as follows:

1. The Mobile Transmission. Excluding the temporary installation of pick-up equipment in a remote location for the transmission of a formal presentation of some kind—say a pick-up of a vaudeville show from Radio City Music Hall or a patriotic pageant from the Rose Bowl —mobile shows will be mostly pick-ups of unrehearsed events, usually in the nature of "spot" news. The telecasters involved may have some prior knowledge of the routine of a news event, such as a special message to Congress by President Roosevelt or a special event such as a report to the nation on plane construction in the form of an actual visit to a plane factory, but they could hardly rehearse them or write a shooting script for the cameras. In the case of news events such as the Normandie fire or sports coverage of football games and other athletics, the action is, of course, completely unpredictable.

The function of directorial personnel in each of these cases might be analyzed as follows:

Congress: Largely the placement of equipment in consideration of the previous knowledge of routine. Successful pick-up of the event, human-interest sidelights and the unexpected would depend largely on the cameramen as it does in the informal studio technique or in motion picture newsreel coverage.

Plane Factory: Directorial activity would involve the creation of an effective continuity of subject treatment carefully outlined in consideration of the spatial and human factors and technical limitations present in the factory. In a fully developed television industry it is probable that the construction of the continuity would be a specialist's job and the director would function almost entirely as visualizer.

The difference between the director and the cameraman in this case would lie in the fact that the director must try to create a previously visualized shot by moving objects and personnel around and creating *situations*, whereas the cameraman can only seize material that is ready-made for him and can have very little control over the action in front of the camera. Essentially, this difference defines the first special quality which the television directors of mobile programmes must have, which is not necessarily present in the cameraman or chief cameraman. He must try to control the action before the camera by actually selecting in the creative, non-technical sense, the elements of the show.

Television's quality of instantaneous transmission demands a speedy, almost infallible sense of the dramatic element in its directors. The quickness in capturing the moment, in giving it the proper degree of emphasis, the ability to catch a fleeting, almost abstract overtone through the calm manipulation of mundanities like props, electronic video controls and spotlights — this ability needed by the director—is not necessarily the property of the cameraman. True, good cameramen in all branches of visualization soon become bored with the mere control of material made available to them and begin to want to control or *direct* it themselves. But in the television art—as in all photographic visualizations —the technique of visualization is a process secondary to the technique of placing the right combination of objects before the cameras—that is, the directorial technique.

It is inevitably more difficult for the television cameraman with no directorial ability to acquire such ability than it is for the director to learn enough of the cameraman's business to function efficiently. It is possible that in the types of television shows where the action is largely predictable and rehearsable, there may be two kinds of directors—a director of the material in front of the cameras and a director of the cameras themselves —but in mobile operations things happen too quickly for dual control. There will have to be one director for cameras and, insofar as direction can be applied to it, the same director for action. That is a categorical statement but five minutes of watching a mobile television crew in action will, I think, convince the reader.

Spot News Coverage: Events of this type are so unpredictable that quickness of perception and the mechanical aptitude to adjust the camera to such perceptions rapidly are the most important factors in the pick-up. In this type of coverage, theoretically, since so little control of action is possible, it would be better that the director be more cameraman than director but, in practice, I do not think the cameraman will get any more consideration on that score.

I think we can conclude then that, at least for news, special events, and sports operations (remember an anticipated fifty per cent of all television transmission) that; *a)* the chief cameraman and director will be combined in one person, the director; and *b)* it will be easier for a director who is an untrained cameraman to master the cameraman's art than for a cameraman who is an untrained director to master the director's art.

Thus, for the fifty per cent of all operations, since the direction will be a one-man job, the cameraman will have little choice to be other than an operative unless he can qualify as a full director. In the fifty per cent of operations where action is rehearsed or predictable, I think there may be two, or even three, persons in control.

2. Studio Operations:

Other than the special events shows which may occur in the studio, studio shows can be divided into the pattern and the non-pattern type. Quiz, Discussion, Educational and Audience-participation shows will, I think, be pattern shows. That is, as I have indicated, an economic necessity for the television industry, just as it is for radio.

The more patterned, the more repetitious the routine, the more money can be spent from week to week on the really important thing—novelty of material. If that material is good enough, the spine to which it is attached—Portland Allen's weekly entrance, "Hello, Mister Aaalen"; Rochester's weekly phone call to Benny; the interminable repetition of the plot pattern of all strip shows—is actually a familiar, pleasant cue for the enjoyment of that material. The pattern technique saves money and actually increases audience-appeal.

The motion picture variant of this is the use of actors, picture after picture, in the same general plot situations, like the "Hardy Family" and other "series" films. It works because the audience feels generally that the mere appearance of the familiar situation is a guarantee of good entertainment about to follow. The only difference between radio and motion pictures is that in radio the pattern recurs every week and in films it appears only thrice or so yearly, as the actor's new picture is released. That is why many people have the illusion that the motion picture industry operates on a higher level than radio. But back to television!

Both the pattern show and the smaller percentage of non-pattern shows require production, preparation, rehearsal. The pattern shows will be the morning and afternoon strip programs, variety shows, documentaries and entertainment of all kinds. Non-pattern shows will be the evening dramatic shows that are not serials.

The action, continuity, dialogue of all these shows is completely predictable and controllable—they can be directed just as the film or play can be directed. Beyond that, and most significant, given a basic familiarity with the technical limitations and possibilities of the medium, they can be directed outside the television studio, without cameras and lights on a rehearsal stage.

At the British Broadcasting Company's studio at Alexandra Palace, the British telecasters were particularly successful in this respect. Studio space, television pick-up facilities, and technical labor, here as at the BBC, are the major production expenses. Obviously if rehearsals, other than dress rehearsals, can be carried on without the use of these facilities, production costs will be considerably less.

At CBS, we were anxious to integrate the economics of the British experiments into our own production set-up. Gilbert Seldes, the guiding spirit of the CBS experiment, produced an entire series of living art shows with the Metropolitan Museum in this manner. Later, I tried it myself in producing the Signal Corps Training Film Unit show previously described. This, as I have indicated, was a special-event show treated as a documentary with all the actions made as predictable as possible and the production made as effective as possible in a two-hour rehearsal period. I directed the rehearsal from the studio floor without the use of lighting, cameras, electronic controls and other television devices.

During the entire time the rehearsal was conducted exactly as it would have been in a bare rehearsal hall with no technical facilities whatsoever. Facilities were then hit and a written outline of the entire action given to the cameramen and other technicians. At dress rehearsal, the chief electrician, sound man, video control operator and director reported that there were only three minor bits of action outside the technical limitations of the studio.

As a result of this and subsequent experiments, I have come to the conclusion that for predictable material the direction of action and the direction of the television pick-up instruments, cameras, lights, sound and electronic controls can be the work of two men. I do not know whether it actually will be, but I am inclined to think so on the basis of the general fact that specialization and division of labor increase as an industry grows and becomes more complex.

There is a subsidiary reason in that a control room director is simply too busy controlling the television mechanism to ever get the all-over effect of his show as the audience sees and hears it. A director wants to see his show in this way and unless it were recorded on film he would have no way of doing so other than watching it. That is why I watched the Signal Corps show in an audition room, making changes by phoning instructions to the control room while the show was being transmitted.

In this case, both the control room, or technical director, and myself were thoroughly familiar with the advantages and limitations of our level of operations at that date. The significance of the experiment lies, therefore, not in the fact that I was familiar enough with the medium's technicalities to prepare a show without physical recourse to them, but largely in the fact that the technical director, working individually, developed a shooting and lighting treatment almost exactly similar to the one I had visualized when planning the action.

This may seem strange to the film technician who may pick one of six or seven ways of shooting a scene. It is not peculiar in a television studio working under infinitely greater limitations of time and money, under technical conditions which forbid any great reliance on technique to make transmitted material tolerable.

Generally, our television experience has indicated that people wise to the ways of the medium will pick the same way of shooting the same prepared material. Naturally, had I not approved of the camera and lighting treatment, I could have changed them in the dress rehearsal. As it was, after agreeing on the method of execution, I left, confident that I would see the direction we had agreed upon executed just as I would have done them myself.

The reader may take his choice in predicting which method of direction may prevail. Under the one-man system, the director must combine the functions usually associated with the Director of Cinematography in film with those of a dramatic director. He must be familiar with electronic and audio controls as well as cameras and lights to an extent which will allow him to make the final judgments on their use. Further, until he is thoroughly experienced, he must have the strong nervous disposition that allows a person to direct shows on the air—that is, simultaneously control studio and electronic lighting and camera movements, direct prop and personnel action and check audio control.

Personally, I feel that the inevitable development of division of labor in the new industry will favor the two-man system for at least the fifty per cent of television operations involving predictable action. Further, the maintenance of an economically feasible television programme service will involve a pattern and routine which, in the interests of efficiency, will probably favor this sort of cooperative specialization.

In conclusion, if the cameraman wishes to proceed beyond the operative stage, he may (if my analysis is correct) play a more important role as the visualizer and executor of programmes of the predictable type. If he wishes to play an important role in television of the mobile, unpredictable type, he must necessarily graduate to the status of director, since the rapidity of action in unpredictable television necessitates one man to be in absolute control. If I am incorrect in my prediction of the two-man system for predictable television, then he will also have to assume the status of director for that.

In any case, regardless of the real importance of the job of the operative cameraman as outlined in the beginning of this paper, I do not believe it will achieve any superior economic status. Moreover, I think that the more the industry grows and the greater the development of specialization, the more the job of the operative will turn out to be a dead end. It is for this reason that the CBS cameramen have used every opportunity to direct and produce in the experimental television set-up.

Top, televising a 40-minute "jam session." The cameraman never knew who was going to play, where, or what. A maximum test of the ability of the television camera-operator. Middle: "On the air" with a Red Cross instructional program for Civil Defense workers. Bottom: Jack Dempsey referees an inter-Service fight, specially staged in the CBS studio.

The old-fashioned college bull-session pales before the sort of discussion that radio and film people can have on the probable relationship of their respective arts. These statements are typical:

"Most television programs will be canned on film. That is the only way to make them smooth."

"Television networks will be yoked together by wire (coaxial cable)"

"Television networks will be linked together by automatic booster transmitters."

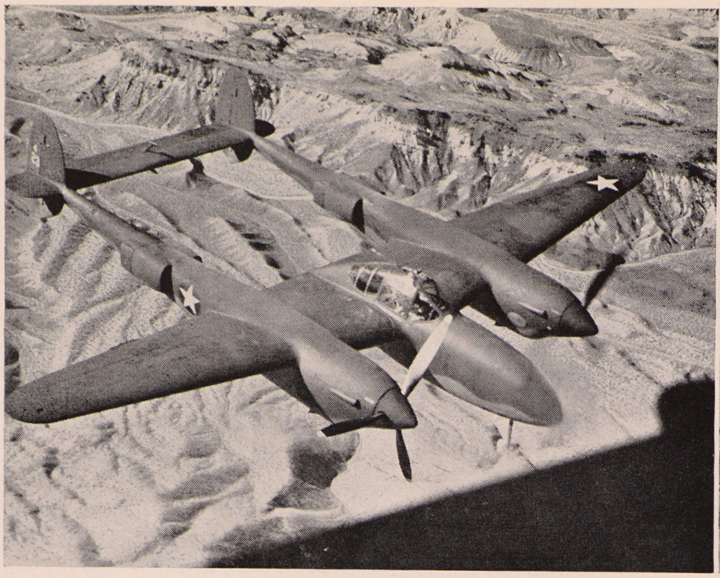
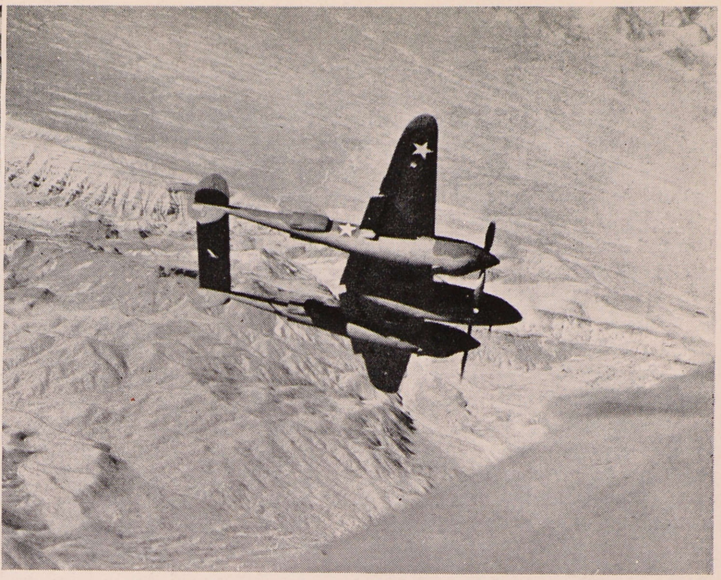
"The television audience will pay for programmes as subscribers—as the BBC audience pays for its radio programmes."

"There will be no sponsors."

"Sponsors will pay five or six times as much for television as for radio."

"Television will not injure the film industry because there is nothing like

(Continued on Page 78)

Kodachroming the "P-38" in Action

By ELMER G. DYER, A.S.C.

AFTER an aerial movie-making career of more than twenty years, during which I'd flown in everything from creaky old "Jennies" to the latest dive-bombers, and exposed all the various types of film from the color-blind Ortho of 1920 to today's Super-Panchromatic and Infra-Red, not to mention Multicolor, three-film Technicolor and Monopack, I thought I had done just about everything possible in professional aerial camerawork.

Then, just a few weeks ago, I got a call to handle the aerial camerawork on a training-film being made by Shirley Burden of Tradefilms, Inc., for Lockheed, to show Army Air Force pilots how to fly the P-38 "Lightning." That was a new experience for me: not only was it my introduction to the sort of work the so-called commercial or industrial motion picture companies do, but it was my first experience with the professional use of 16mm. Kodachrome. There followed a succession of surprises and problems which made it one of the most interesting assignments I've ever had.

The first surprise came when I found out who were to be my associates on the picture. I'd always thought that 16mm. industrial movies were made on pretty much of a shoestring basis—just some guy nobody ever heard of, and who would probably be overpaid if he got ten dollars a week, going off with an amateur camera and snapshooting whatever he could in an amateur fashion.

But not on this picture! The Director of Photography in charge of the "production" camerawork on the ground was Robert C. Bruce, A.S.C., with Alan Stensvold, S.S.C., his associate as Kodachrome specialist, and backed up by a full professional crew. I had charge of the aerial camerawork, and with me was my regular assistant, Ray Flinsky.

When I mentioned my surprise at seeing a studio-trained crew like this lavished on a 16mm. training film, Producer Burden replied, "The phrase, 'training films in 16mm. Kodachrome' makes things sound simple and easy, but the truth is that training films these days present new and unusual problems that require practical solutions. Furthermore, there's usually very little time in which to reach those solutions. That's where fully trained, professional crews, with plenty of assistants, juicers, grips, and so on, pay dividends.

"It's pretty obvious that a great many people can handle a 16mm. movie or a still camera and get adequate results when conditions are normal. But in making technical films like this, the going is usually tough. There are no made-to-order conditions. There are no sets. There is only an emphasized time element, coupled with a demand for perfection on the screen. To aircraft factories and the Army Air Force the question 'When do you want it?' inevitably has a two-word answer—'Right now!' And when the chips are down and the going is tough is the time that 100 per cent professional crews who really know their business come sailing through, where the fair-weather filmer would prove an expensive flop."

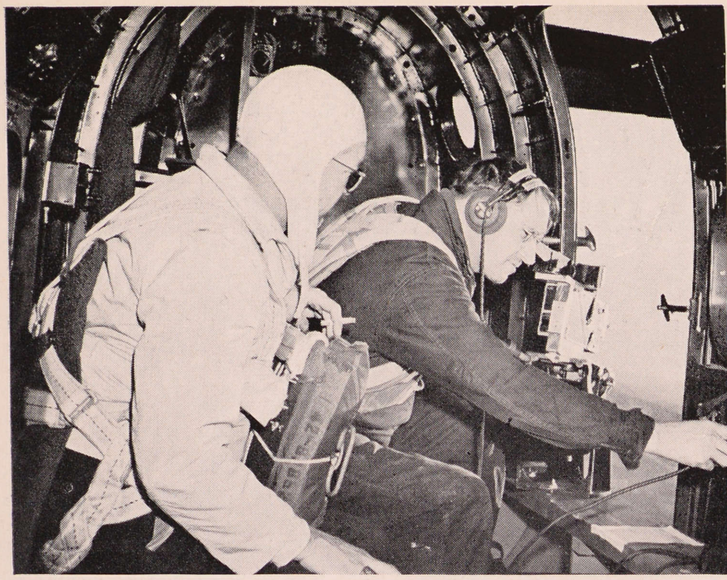
I began to realize something of the truth of this as I watched Bruce and Stensvold at work on their part of the picture. Some of their work was quite simple—about 2 per cent of it, I'd say. The rest of the time—well, here's one of the simpler shots they had to make: visualize, if you can, a P-38's cockpit, which isn't any too big anyhow, and is covered with a neatly streamlined enclosure besides.

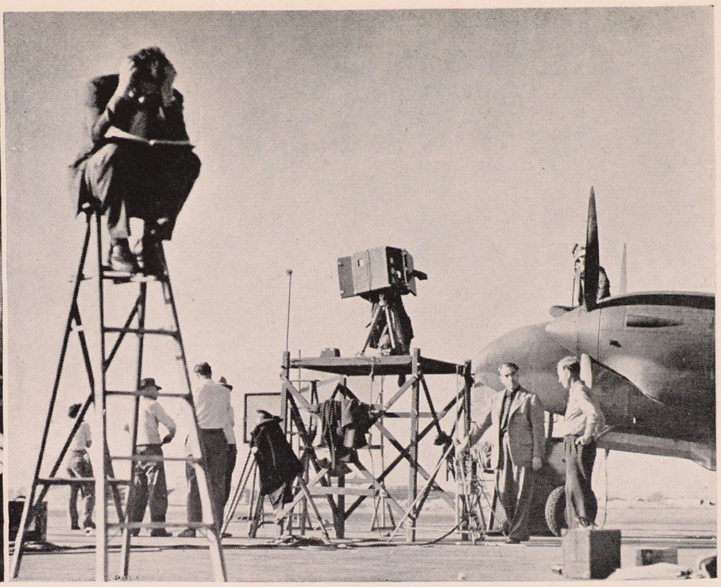
Into that cockpit place one medium-sized pilot.

Now try to place the camera so that you can see the pilot, the control-stick, and the instrument panel. Then start setting up your lights.

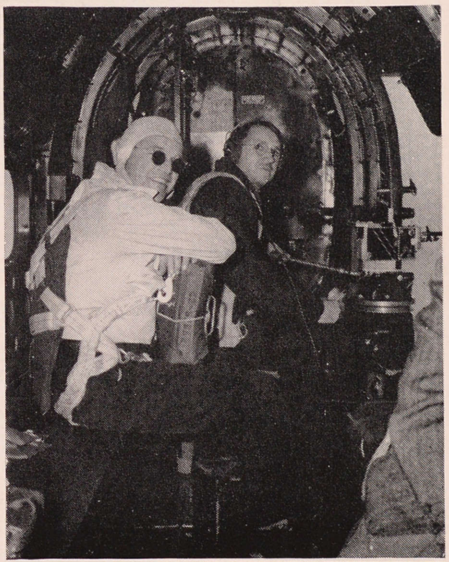
Now begin making allowances for the knobs of the twin throttles in bright red, the sides of the cockpit in regulation grayish-green, and an instrument-panel half covered by a hood, with the panel itself completely black—and just about the blackest, least reflective black you ever saw. Add to this panel the component instruments with their figures in white, warning markers in red and green, and each individual instrument-dial covered with glass.

Now get your lights all set—perhaps so that with changing lighting you can suggest the interplay of sunlight and shadow as the plane turns, loops or rolls. Oh yes, remember to have your pilot's hands made up so they won't "wash out" completely.





Above: Elmer Dyer, A.S.C., and Assistant Ray Flinsky at work in the air. Note Akeley matched-lens finder fitted to 16mm. Cine-Special. Right: Producer Shirley Burden (on ladder) tears his hair as Directors of Photography Robert Bruce, A.S.C. and Alan Stensvold, S.S.C., tussle with a technical problem. To right, top: Dyer and Flinsky at work in the "Lodestar." Middle: a discussion of exposure at 10,000 feet. Bottom: Producer Burden gives last-minute instructions to Pilot Milo Burcham.



Ready to roll—?

Say—wait a minute! You'll have to start up the engines and rev up the propellors so that the engine instruments will register properly. Naturally this makes quite a bit of vibration, and a gale of wind from the two propellers. Now just where were those lights you placed? And the camera?

O.K. Let's say everything is still set. All that has to be done now is to shoot the scene and move on to fulfill the required schedule of thirty-eight such setups per day. And remember—this was one of the easier ones. . . . ! Do you see now why my hat is off to Bob Bruce and Al Stensvold and their crew?

My own part of the job was easier. The first problem, after being duly "mugged," fingerprinted, and issued a regular Lockheed identification badge, was to get acquainted with Kodachrome film and the 16mm. equipment I was to use. Of course I've shot a lot of 16mm. and Kodachrome for myself, but there's a world of difference between shooting Kodachrome for pleasure and shooting it—especially in the air—for professional use.

The basic problem was exposure. Of course in shooting Kodachrome it's axiomatic that your exposure has *got* to be correct; but "correct exposure" when you're shooting for duping (as is always the case professionally) is very different from "correct exposure" when you're shooting just to get a good original for home projection. Shooting for an original, giving the equivalent of a Weston 8 film speed means "correct" exposure.

But when you shoot for duping, you'll get the best results if your original is on the soft side, both as to color and contrast. So you'll want to give it what would amount to a slight overexposure if you're used to shooting only for an original. The easiest way to do this is to use the equivalent of Weston 5 instead of Weston 8 in your exposure-metering.

Then there's the matter of "following focus" on your exposure as the plane you're shooting goes through its combat manoeuvers. Getting the correct exposure on the plane itself is easy enough; but when you pan down to follow it, and get the darker ground in your shot, you'll run into underexposure. Panning up as the P-38 zooms upward gives you plenty of sky for a background—and every inch of it overexposed.

With a 35mm. outfit, this business of "following focus" on exposure isn't too much of a trick if you've a practiced assistant. But in 16mm. it's a good deal more of a problem, due to the way the lens-mounts are made. I'd say it was impossible if you were working alone; but with a really good assistant like Ray Flinsky, it can be done satisfactorily—if the producer gives you a little time for tests and practice, as Burden did.

Equipment was quite a problem, too. On the ground, Bruce and Stensvold generally used the Bell & Howell professional 16mm. camera which was described in THE AMERICAN CINEMATOGRAPHER about two years ago. For our air shots it was decided to use a Cine-Special, due to the advantages of its compactness and quickly interchangeable magazines.

The Special is a honey of a camera all right, but to the 35mm.-trained professional it has several disadvantages. The first of these is an inadequate finder. Personally, I'm used to either a Mitchell-type finder or the matched-lens arrangement of the Akeley for aerial work, and the Special's regular finder, while all right for ground work, simply didn't suit me for the tricky problem of following one of the world's fastest pursuit planes going through the manoeuvers of aerial combat.

Finally we managed to adapt an Ake-

(Continued on Page 77)

Why I Want To Make Movies

By LEONARD J. SHAFITZ

DURING these times there are probably thousands of young artists, craftsmen and technicians throughout the country—and for that matter the entire world—who have delayed their plans and put off their course of study until the conclusion of the war. And it is right, for only in a free world can individual creative efforts flourish and have the right to grow. As Sergei Eisenstein has said in his book, "The Film Sense," "War usually implies the subordination of all work in the field of art, especially art theory, and all research work outside the limits of war needs. Fully revealed and fully sounded, the definitive rise of an art of the cinema and a cinematographic method begins with the conclusion of the nightmare through which man now passes."

So it is with the many young photographers who are now in the service of the country or who, like myself, are about to enter it, and who in the future hope to embrace this medium which has become the popular art-form.

I don't think that in either our pre-war dreams or our present ambitions for finding ourselves places in the industry after the war, many of us have been particularly attracted either by the so-called glamor of the cinema, or by the comparatively high earnings the industry offers those who are successful. The simple fact is that we *like* cinematography enough to make it our life work. And some of us, at least, have sufficient faith in motion picture's power to influence the lives and thinking of people to want to do our bit to help make it a more powerful influence for good in the world.

The full maturity which the motion picture has reached within the last ten years has made it one of the greatest dramatic and informative mediums that have come out of our technological development. Aside from the field of entertainment, the motion picture has proved to be not only an instrument of international concept, but one that will prove to be of immense value in the post-war world to tie the nations together instead of making boundary lines that breed suspicion and distrust.

The craftsmen and technicians who are working for the conclusion of the present world-wide nightmare will then start anew the task of absorbing the concept of this medium so that it will prove to be man's unifying effort in the world-to-be. They have faith not only in the technical heights of the film but in man's ability to use this potent force for the general benefit of all who come under its influence.

Ever since I took my first picture with an old 4x5 still camera not so many years ago, I seemed to sense the possibilities that were inherent in the photographic realm. But anyone who has produced a good still picture with a message must realize how much more important the motion picture is, and how much more moving and dynamic is the story that can virtually live for us.

Unique as this triumph is for the engineering and scientific principles involved, it should be and is more—it is what all good scientific endeavor must be, the realization that technique is the servant of the artist and that only by his full understanding and talent can a technical invention reach its fullest heights, especially in the field of a universal appeal like the motion picture.

I've wanted to make movies, probably ever since I was just getting started in high school. Then, perhaps, it was the fascinating technique that interested me, but now, in addition to a highly technical and skilled technique, the realization is there that I can contribute in some humble way to a living, moving and forceful medium that is now more necessary for the good will of all men than at any other time in the history of the world.

As in all art-forms, there are always many subdivisions of the one all-over conception. The same is true for the film, where the documentary episode, the cartoon, the commercial reel, the newsreel, and of course, the entertainment film are established forms.

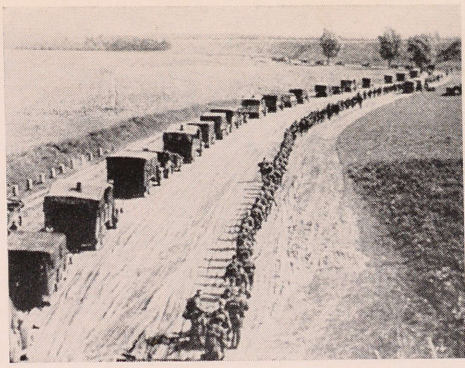
All have their own particular problems and techniques which have been worked out by the cinematographers who have specialized in these particular film branches. They are all artists of their own particular interest. The film can boast about these specialists who have concentrated upon outstanding creative effort—no matter if it be the Disney cartoon or the fact-finding evidence of an Ivens documentary.

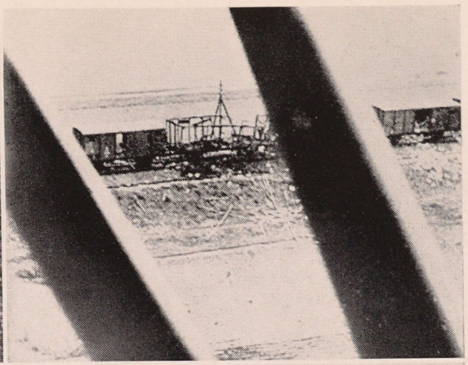
The dramatic film represents a unique conception in the realm of screen art. Without the full cooperation, understanding, and ability of every worker involved, be it cinematographer, director, or producer there is no truly great film. But when this happens, and the screen unfolds a story that has had the understanding touch of the director, the ability of the set designer, the dramatic impetus of the writer and the experience and skill of the cinematographer—then the screen will rock with the dramatic impact.

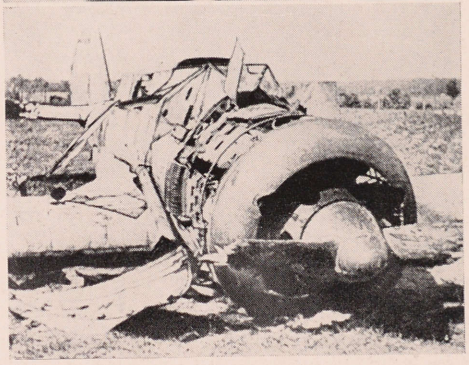
That is why I want to make movies. To be around the camera through which all these human efforts must pass, and through which lies a valuable and almost endless art-form which the future will develop and expand into the post-war world's universal "good will ambassador."

That is why, once I've done my share for Victory with one of the Army's photographic units I—and I suppose many others like me—will be beating a path to Hollywood, there to knock at the gates of the cinema until we find the place where we'll be most useful making movies for the uncharted new world of the future! END.

We've often discussed with college students interested in cinematography and, more recently, with young men trained as combat cinematographers for the Armed Forces, the reasons behind their interest and aspirations in professional cinematography. The author of this article, a recent graduate of a midwest college, now waiting a call to Officers' Training for the Air Force Photo Section has, we believe, summarized the viewpoint of these young men more clearly than we have yet heard it expressed. As such, both the article and the ideas it expresses merit careful consideration from everyone within the professional industry.—THE EDITOR.







Above: Trains, road traffic and especially ambulances are favorite targets of Nazi aviators. Below: One Heinkel that won't strafe and more ambulances.

From A Nazi Prison Camp To A Signal Corps Camera

By CHARLES SWEENY

TWO and a half years ago I was a prisoner in a Nazi prison camp in France. Today I'm in Hollywood, waiting a call to active service as a cameraman in the Signal Corps of the U. S. Army. And I hope I draw an assignment to active combat camera-work in the field, for I've a score to settle with those Nazis for some of the things I experienced myself, and for many more I saw them do before and after the fall of France.

My story really begins several years before the war. I am an American, but I was born and brought up in Paris. My father had flown with the Lafayette Escadrille in World War I, and remained in France after the war.

My first active contact with professional cinematography came about a dozen years ago, when through some friends I got a job in the camera department of the French Paramount studio at Joinville. In time, as I learned more about the work, I found myself placed in charge of the department—which wasn't as much of a job as it sounds like on this side of the Atlantic, for even the biggest French studios are smaller than the smallest of Hollywood's "independent" studios.

In time, as Paramount's French production slackened, the Paris office of Paramount News began to press me into service now and then as a newsreel cameraman, "covering" news events when their regular crews were busy elsewhere.

Finally, Paramount's French studio activities stopped altogether. So did my job. At that time, French production everywhere had reached a very low ebb, and as I like to eat, I decided I'd better seek elsewhere for a job. I knew they were making pictures in Berlin, (this was before Hitler's rise) and finally decided to go there and see what sort of a job I could find.

I found it—but not in studio production. As soon as the UFA officials learned I'd been shooting in Paris for Paramount News, they handed me an Eyemo and said, "OK, you're hired. We need newsreel cameramen for the 'UFA Wochenschau'—so go out and get busy."

I did. Of course, as the newest and greenest cameraman on the newsreel, I usually drew the least important, routine assignments—the sort of thing that had to be "covered," but could be handled by almost anyone. But even on routine assignments like that, luck has a way of creeping in and helping a fellow sometimes.

It did with me. One day I was assigned to cover an attempt at the World's auto speed record which was to be made by one of Germany's leading race-drivers. It was partly a bona-fide sporting event, and partly a gesture to publicize Germany's recently-completed super-highway, the "Autobahn." And I happened to be the only cameraman available for the job.

It started out in very routine fashion. The driver made several runs over the course, each time just missing the 300 mph. record he was aiming at. I covered these runs in routine fashion, and was ready to pack up and go when he said to me, "Stick around a bit. Maybe I'll try one more run."

Well, I had my story, but there was one angle I thought I'd like to have to complete it. A few miles along the super-highway was an intersection where a secondary road crossed the "Autobahn" on an overpass bridge. I thought a shot from this overpass, as the racer came streaking down the long, straight highway directly toward the camera, would add a novel angle the editors would appreciate. I didn't realize—then—just how much they'd appreciate it!

Soon after I got my camera well set up on the bridge, I heard the whine of the racer coming toward me. As the car came in sight, I pressed the button and started the camera.

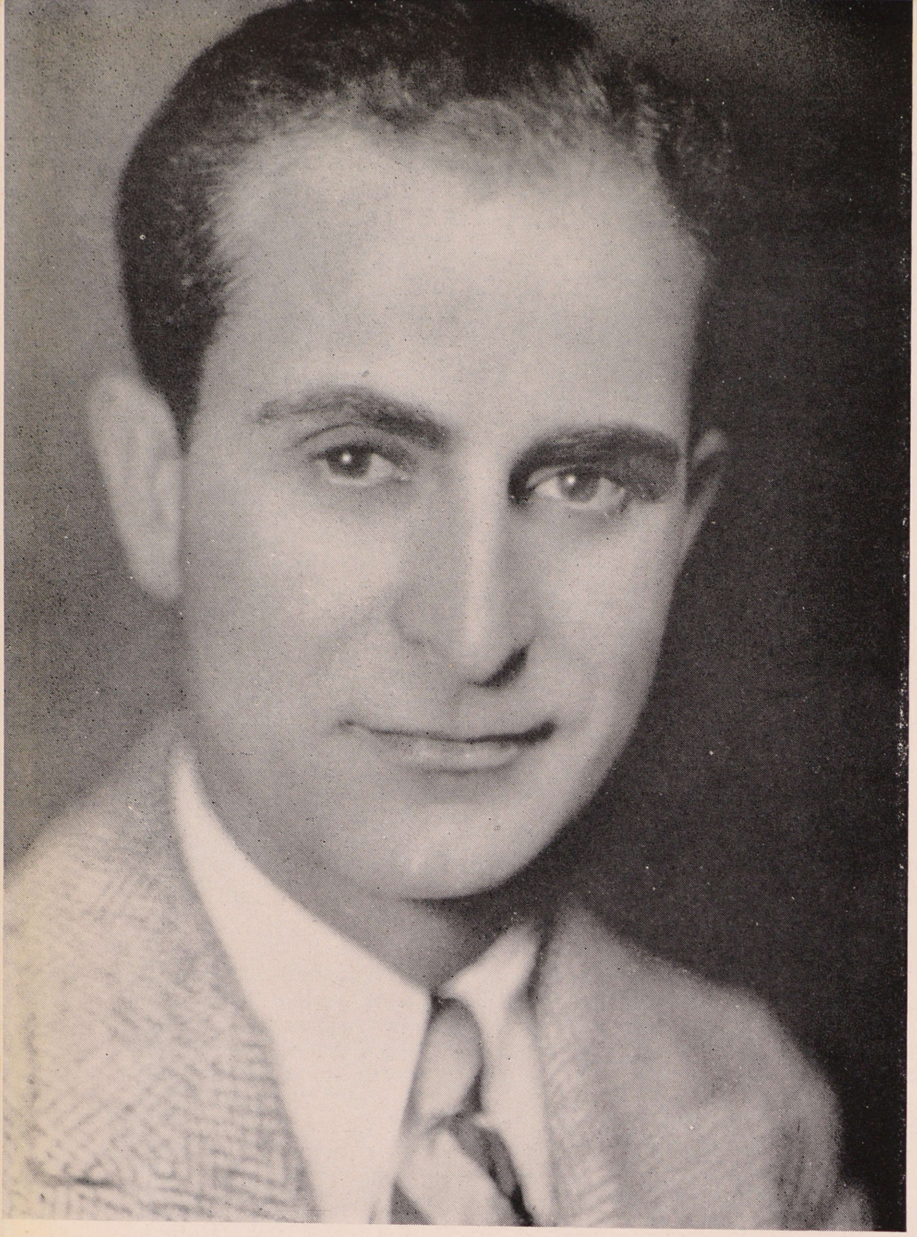
Right there, luck stepped into my picture in a big way. It was good luck for me, but bad luck for the driver. Just as the car got nicely into the picture, a tire blew out. At three hundred miles an hour a blow-out is more than a mere minor accident: for the next few seconds the air was full of pieces of the car scattering themselves over several hundred meters of landscape. When it was all over, there was very little left of either the car or its unfortunate driver. And I had the whole thing on film—!

It was luck, pure and simple, but the newsreel editors didn't think so. They said a lot of very nice things about my skill and news-sense . . . and I became one of the bigger shots of the newsreel staff from then on.

I stayed with this job all through the years while the Nazi government was building its power. I was one of the official cameramen assigned to film the entry of Hitler and his Nazi troops into Austria. In this assignment, I even had the dubious pleasure of meeting and photographing the Nazi Fuehrer.

Contrary to the prevailing impression, he is—or was at that time—a very pleasant person to meet. He can be friendly and agreeable, and my impression of him was that he was a man of more than ordinary force and brilliance. Frankly, I think it's a very unfortunate coincidence for us that his appearance

(Continued on Page 68)



Aces of the Camera

XXV:

Phil Tannura, A.S.C.

By WALTER BLANCHARD

PHIL TANNURA, A.S.C., literally grew up with the motion picture industry. Though only in his middle forties, he can look back upon a career of thirty-five years in the industry, during which he has had a broader and more varied experience with virtually every phase of production that has fallen to the lot of almost any other member of the camera profession.

"Little Phil's" movie career began with the old Thomas Edison Studio back in 1908—but not as a cameraman. True, they were hiring cameramen young in those days . . . but not undersized eleven-year-olds in short pants. "Little Phil" began his career on the *other* side of the cameras, as a child actor.

In those days, a "feature production" was usually a split-reel, about 500 feet in length. Young Tannura starred in scores of these films, and he still remembers vividly the excitement that rippled through the industry when some ambitious producer decided to make pictures a whole thousand feet long!

But after four or five years of juvenile stardom, the "awkward age" overtook Phil, as it has many another adolescent luminary since. He retired from the screen to devote himself to the more serious business of growing up and going to high school.

A readjustment like that isn't easy, thought, and before long young Tannura found himself itching to get back to work. He stuck it out for two or three years, but finally it was too much for him, and back he went into harness. But only briefly to acting: young as he was, he decided that a career in the technical end of the industry would be not only much more interesting to him, but more lasting.

So he asked for a job anywhere in the photographic department of the Edison Company.

He found it as an assistant in the still photographic darkroom. There he learned to mix chemicals, to develop negatives, and to make prints. And finally he was sent out to work as one of the industry's earliest still photographers.

"But that," he'll tell you, "didn't mean what it does today, when there is a still man attached to each production unit. In those days, there was just one still man—for the whole studio! If there were only one or two companies working, the still man was in luck. But if there were four, or five or six companies working, he still had to shoot the stills for all of them.

"In those early days, however, that wasn't as impossible a task as it sounds today. Making silent pictures, as many as half-a-dozen companies would use the same stage simultaneously. Here there might be a troupe making a 'society drama'; next to it—perhaps only five or ten feet away—would be one making a 'Western'; and a few feet farther on might be one making a slapstick comedy, while a 'cops-and-robbers melodrama might be shooting (very literally!) over in another corner. The still man simply circulated from one troupe to the other, shooting his stills impartially as he saw fit and the opportunity presented itself."

Still work was an improvement on acting, he decided, but it still wasn't quite what he wanted. As he watched the studio's cinematographers (cameramen, they were called then) he decided that there, at last, was the sort of work he wanted to do. So he went to the studio's technical heads and asked for a job that would lead more directly to cine camerawork.

That, in those days, meant serving an

(Continued on Page 74)

THROUGH the EDITOR'S FINDER

THE recent announcement that this year the Academy Award for the year's best achievement in special-effects technique will be recognized with a Class I Award—the familiar "Oscar" statuette—instead of the Class II plaque hitherto awarded is a step in the right direction. For many years special-effects technicians have been playing an increasingly vital role in production, and it is about time they received full recognition.

This year especially, when special-effects camerawork, either in the form of miniatures, matte shots, or process background scenes, is literally making possible the production of pictures which could not otherwise be filmed in the face of arbitrary ceilings on set construction, transportation difficulties, and the many other restrictions of movie-making in wartime, the industry should bestow its highest awards upon the men who have most greatly achieved in this specialized field.

But while this present move is a welcome step in the right direction, it does not in our opinion go far enough, for, as in the past, this year's special-effects award is to be made jointly for special-effects in picture and in sound. To our mind, these two should be divorced, and two separate awards made.

Too often—especially under today's circumstances—a really noteworthy achievement in picture special-effects may be coupled with a recording job which involved nothing particularly out of the ordinary. By the same token, really brilliant achievements in the special-effects use of sound may be, and probably have been yoked to photographic work which represented little, if anything, beyond routine, run-of-the-mill production camerawork. Under such conditions the award may very well go to an achievement which in picture or sound or both represents really less than the year's best achievement in one or the other of these fields. The Academy Awards are—or should be—too big for any compromise, "face-saving" handouts given for anything less than clear-cut superior achievement.

In addition, it has never seemed fair to us that the sound men should participate in the nominating and voting upon an award which is so essentially cinematographic as that for special-effects photography. Neither is it fair to the sound engineers that cinematographers or art directors, most of whom are certainly not trained recording engineers or anything like it, should be perhaps a dominant factor in singling out the best achievement in the special-effects use of sound.

We're glad, we admit, that special-effects has been raised to full "Oscar" status—but why not split it into two "Oscars," and give both sound and picture their full due—?

A FEW days ago one of the industry's most distinguished cinematographers—a recent Academy Award winner and the recipient of innumerable other honors for his achievements in photographing many of the finest films made during the last twenty years—dropped into the office for a chat. After a polite dalliance with such preliminaries as the weather, the latest war news, and similar topics, the conversation naturally turned to cinematography, and to this magazine's reviews in particular.

"I like your reviews," he said, "but I wish you would more frequently review 'B' pictures. That may sound strange to you, coming from a man who seldom does anything but really big 'A' productions. But honestly, I think the men who do a good job on the industry's little pictures usually deserve more credit than the 'big shots' who concentrate on more pretentious big pictures.

"On an 'A' production, the man at the camera has the best of everything laid out for him, virtually on a silver platter. He works with the studio's best players and finest directors, not to mention the best of stories. He has the finest possible sets, and often the collaboration of a skilled production designer. He has all the physical facilities he needs, and an abundance of time. If he finds it necessary to rehearse half a day on some intricate camera-movement, or to delay two or three hours while a certain type of lamp is obtained and rigged—what does it matter in a schedule of two, three or more months, so long as the result on the screen is perfect?

"But the man on the 'B' picture works with left-overs. His sets are remodeled from standing sets left over from many another film. His players are usually inexpert youngsters on the way up, or oldsters on the way down. The stories—well, the less said about them, the better. His director may be a rank newcomer whom he must coach in picture-making, and often 'carry.' He is begrudged every minute that isn't spent on actual shooting, for his picture may have a schedule ranging from seven days to perhaps as much as three or four weeks, and a budget that wouldn't support a week's work on the more leisurely 'A.'

"Anything the 'B' picture man puts on the screen, he must do absolutely by himself, and in the face of tremendous obstacles . . . often downright opposition. If he does a good job under such circumstances, it's more of an achievement than many an Academy Award job on a big-budget 'A.' Honestly, I've often thought that if I were lucky enough to win another 'Oscar,' I'd like to step down from the platform with it and hand it to some one of the men who do good work on the industry's 'B's,' with never a look-in at the credit they really deserve!"

We're rather proud that this opinion so closely coincides with our own. Unfortunately, we can't see or review nearly all of the industry's production. Both the space available for reviews, and the time we have available for attending previews are too limited to permit that. But for more than a dozen years it has been a guiding principle in writing our reviews that as between a man who has done an excellent job on an 'A' production and one who has done an adequate one on a 'B' picture, the man on the program film is likeliest to deserve more credit, because of the merit of the achievement he has turned out virtually single-handed, with the cards stacked against him.

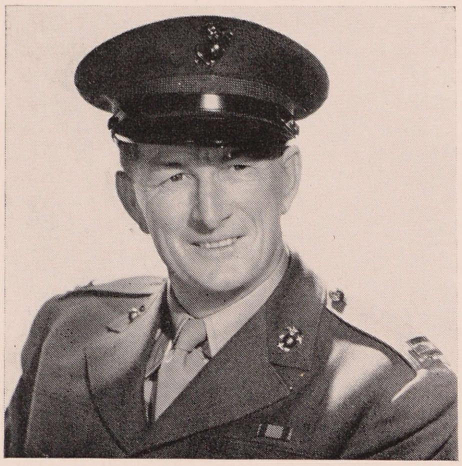
•

IT ISN'T OFTEN that we concern ourselves with anything other than the technique of films, much less suggest that a film of fifteen or sixteen years ago be revived for general showing. But today, with all the talk about the way motion pictures can reveal a national viewpoint, and the pro-and-con discussion about the good or bad characteristics of the German people, and what they might do if the present Nazi Government were removed, we can't help wishing that someone would exhume that famous UFA silent film of 1926, "The Last Laught." We've seen it many times, and each time we've been increasingly impressed by the lesson it taught of the average German's adoration of a uniform.

The story is simple enough—just the story of an old man and his uniform as a hotel doorman . . . how his loss of the right to wear that uniform changed him overnight from an honored citizen of his neighborhood into a pariah, and stripped from him even the incentive to live. In the American version, a synthetic 'happy ending' was provided; but in the original German production the old man committed suicide because he could no longer wear his gaudy uniform. An American would feel uncomfortable in clothes that set him so apart from his fellows; the German felt lost without them.

The makers of this film certainly had no intention of pointing out this strange quirk of their national psychology, but it is there, and powerfully presented. We wish that every American—and especially those who will make the peace to come—could see this film and absorb its lesson. And we hope, too, that in that future time when American films play their destined part in re-educating the Axis peoples to civilized ways, we may produce films which will with equal power preach the virtues and viewpoints of the Democratic way of life.

A.S.C. on Parade



We lead off with a great big salute to **Captain Clyde De Vinna, A.S.C., U.S.M.C.R.,** shown above smiling as one of 20th-Fox's glamorizing still-men snapped him just before he took off for parts unknown for his leatherneck indoctrination and then active service as skipper of a Marine Corps photo unit.

●

Another salute to **Leo Tover, A.S.C.,** now officially **First Lieutenant Tover** of the Army Signal Corps' big production center in Long Island.

●

And did you know that Associate Member **Wilson Leahy, A.S.C.,** is now **Lieutenant Leahy** of the Navy's Film Processing Unit, Photo Science Laboratory? He sent a cheery note from his Eastern Station where he has an important job seeing to the processing of the Navy's training and combat films.

●

Lieutenant Henry Freulich, A.S.C., U.S.M.C.R., in town for a few days recently, tells us he's happier as a leatherneck than he's ever been in his life. **Henry** expects to be in Hollywood again soon, and promises to drop in to the A.S.C. and let us "mug" him for next month's "A.S.C. On Parade."

●

Thanks to **Johnnie Mescall, A.S.C.,** for his note praising one of the Editorials in last month's "Through the Editor's Finder."

●

Charles Marshall, A.S.C., off to the big Navy Air Base at Pensacola with the assignment to photograph an aerial training film for the Navy.

●

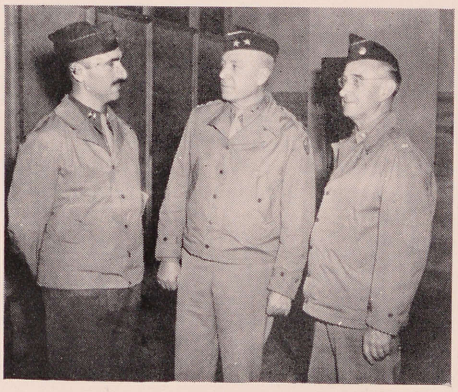
The yearly parade of "Best Film Achievements" is on again! "Film Daily" led off with its poll of the nation's film critics, who selected the following as the five best photographic achievements of 1942: "How Green Was My Valley," photographed by **Arthur Miller, A.S.C.;** "The Magnificent Ambersons," photographed by **Stanley Cortez, A.S.C.;** "Reap the Wild Wind," photographed by **Victor Milner, A.S.C.,** and **Capt. William V. Skall, A.S.C.;** and "Wake Island," photographed by **Theodor Sparkuhl, A.S.C.; Lt. William C. Mellor, A.S.C., Harry Hallenberger, A.S.C., Elmer G. Dyer, A.S.C., W. Wallace Kelley, A.S.C., Gordon Jennings, A.S.C.,** and **Farciot Edouart, A.S.C.**

●

And from England comes the word that the Third Dimensional Society of England has pronounced "Eagle Squadron" and "The Magnificent Ambersons," both photographed by **Stanley Cortez, A.S.C.,** the biggest achievements in three-dimensional photography during 1942.

●

And **Rudy Maté, A.S.C.,** goes to Columbia to photograph "Sahara." On this one we gather **Rudy's** skill at glamorizing the femmes won't be called into play . . . the picture has a cast of seven men, and the "love-interest" is represented by a 30-ton tank. However, Columbia's glamor gals will get plenty of opportunity to look lovely for **Rudy's** camera, as that studio has taken over his contract, which has a year or more to run, from Sir Alexander Korda.



Captain John Alton, A.S.C., sends this picture himself with his present Commander, **Major General O. W. Griswold,** on whose staff he is now serving as liaison officer between the Commanding General's office and the Signal Photographic Laboratories, and his former Commander, **Lt.-Col. Edward J. Hardy,** under whose command **Alton** received his basic military training. **John** reports that he is attending General Griswold's staff school, and was recently called upon to lecture to one of these classes on "Motion Pictures—the New Weapon." He's enthusiastic about the way the Hollywood men in his outfit have taken to soldiering. "You should see some of our former executives, editors, directors of photography, sound engineers, and so on, command a battalion," he says, "and march on a hike with full pack, tin hats, gas-masks, etc. It would make West Pointers envious!"

Reunion in the Pacific—Pathe News War Correspondent **Len. H. Roos, F.R.P.S.,** (left) and **Lieutenant Philip M. Chancellor, A.S.C., F.R.G.S., A.R.P.S., U.S.N.R.,** meet "somewhere in the Pacific Area." They hadn't seen each other for over eight years.

●

While we're on Naval matters, **Lt. Gregg Toland, A.S.C., U.S.N.R.,** recently took time off from the picture he's producing, writing, directing and photographing for the Navy to have his tonsils yanked. **Gregg** must be a smart producer, for he scheduled the carving for a Saturday, so he could be back on deck the following Monday, without having to "shoot around" himself!

●

James Wong Howe, A.S.C., draws the prize plum of directing the photography of Samuel Goldwyn's forthcoming big special about Russia, "North Star," with a cast any producer might envy.

●

Harry Perry, A.S.C., gets a nice break at Universal. After spending three months shooting backgrounds and atmospheric scenes with Atlantic convoys for "Corvettes In Action," he has been selected to direct the photography of the production scenes in the studio. Good work, **Harry!**

●

Hal Mohr, A.S.C., just signed a new term contract at Universal. His first assignment is to direct the photography of "Phantom of the Opera," in Technicolor.

●

Charles Schoenbaum, A.S.C., phones in to tell us he's just finished a four-months' assignment Technicoloring MGM's biggie, "Salute to the Marines." He handled this big Technicolor assignment solo and, so we hear, has done a swell job. We'll be waiting for the preview, **Charlie!**

●

Henry Sharp, A.S.C., says that while the typical "Hollywood wolf" used to prefer a girl who'd meet him half way, now that gas rationing has gone into effect he knows one who insists on a girl who'll meet him half way—and has a "C" card to do it with!

●

Nick Musuraca, A.S.C., is doubling in brass at RKO, directing the photography of "Fallen Sparrow," and also serving as Italian language consultant.

PHOTOGRAPHY OF THE MONTH

CHINA GIRL

20th Century-Fox Production.

Dirtector of Photography: **Lee Garmes, A.S.C.**

One expects interesting camerawork from Lee Garmes, A.S.C., and in this pleasant little melodrama he delivers it. "China Girl" is by no means Garmes' best work, but his contribution is unquestionably the most distinguished part of the production. His mood and effect-lightings, together with his characteristically pictorial compositions, lift the picture decidedly above what it would be otherwise.

To this writer's opinion, Garmes was probably at his best in the extremely effective opening sequence. This is dramatic cinematography at its best, and gets the picture off to an unusually good start. But throughout the picture, Garmes' camera does a great deal more than either actors, direction or script to establish and maintain a dramatic mood and that elusive something known as "production value."

The art direction of Richard Day and Wiard B. Ihnen is particularly interesting, and gives Garmes excellently pictorial material with which to work. It furnishes, too, an excellent indication of the inter-studio cooperation engendered by the wartime limitation on new set construction, for unless we miss our guess very badly one of the key sets—the big hotel lobby—was one built originally by MGM for "They Met In Bombay," apparently borrowed by 20th-Fox and very skillfully disguised.

Henry Hathaway's direction was below par, and seemed particularly amateurish in the unusual number of very bad cuts which furnished a constantly jarring note which ran through the entire picture.

STAR SPANGLED RHYTHM

Paramount Production.

Directors of Photography: **Lt. Leo Tover, A.S.C., and Theodor Sparkuhl, A.S.C.**

A big musical like this one, which is primarily a revue to showcase virtually all of Paramount's stars, isn't the sort of picture which offers its photographers the most outstanding of opportunities, but Tover and Sparkuhl have given the picture an unusually effective photoghaphic mounting. They've done an unusually smooth job of it, too; it's almost impossible to tell where Tover's contribution leaves off and Sparkuhl's begins. The picture covers an unusual range of photographic and dramatic moods, too, ranging from extreme high-key "filmusical" and lightings to some very fine, extreme low-key effect-lighted sequences.

To our mind, the pictorial highlights were the "Black Magic" ballet number (which was, incidentally, photographed by John Seitz, A.S.C., though not credited), Rochester's zoot-suited "Smart as a Tack" number, and the concluding "Old Glory" number. The latter, incidentally, provides the final fade-out in most effective fashion by lap-dissolving from black-and-white to color. It is unfortunate, though, that the black-and-white portion of this final shot was not, or perhaps could not have been printed five or six lights darker, to match better with the rest of the sequence.

The special-effects staffs of Gordon Jennings, A.S.C. (Special Effects) and Farciot Edouart, A.S.C. (Transparency Projection) certainly deserve high credit for their contributions to the picture, though they were not officially credited. Jennings' work in the "Black Magic" number was particularly fine, and in the jeep number—"I'm Doing It For Defense"—both he and optical printer expert Paul Lerpae, A.S.C., have contributed outstandingly and with hilarious effect. Old-timers will recognize in this sequence Fred Jackman's famous old trick of submarining a car through a lake—and it's still good for as big a laugh for Paramount today as it was for Mack Sennett twenty-five years ago.

MOON AND SIXPENCE

United Artists' Release.

Director of Photography: **John F. Seitz, A.S.C.**

"Moon and Sixpence" is one of the more interesting releases of the season, both dramatically and photographically. Director of Photography Seitz has a picture that is replete with pictorially interesting atmosphere, and aided by the always deft production designing of Gordon Wiles, he takes full advantage of every bit of mood and atmosphere.

The picture is interesting, too, in that it makes effective use of a three-color Cinecolor enlargement from a 16mm. Kodachrome original to provide a brief sequence in color. The central character is a painter, and all through the picture Director Al Lewin very cleverly avoids showing any of his paintings: even when he or his friends exhibit them to other characters, all that the audience sees is the back of the canvas. The paintings themselves are never shown until just before the climax of the picture—and then they are shown in color, adding immeasurably to the dramatic effectiveness of the treatment.

From the photographic viewpoint, this color sequence is very interesting. It would be an exaggeration to say that it is fully as good as a direct-35mm. color sequence, but considering its 16mm. origin, the results on the screen are surprisingly good. In the first few scenes, it struck this observer that cinematographer Seitz was lighting with a little too much contrast for the Kodachrome-Cinecolor combination, as contrast is increased and shadow-detail distorted in the enlarging process. But when the scenes were lit rather flatly, the results proved excellent: the definition was satisfactory, and the color rendion good, though it seemed the color-saturation was rather higher than we're accustomed to in Technicolor. However, in this instance the bright coloring probably served well to heighten the dramatic result desired. The directorial technique employed in getting into and out of the brief color sequence was also interesting.

SEVEN DAYS' LEAVE

RKO Production.

Director of Photography: **Robert De Grasse, A.S.C.**

Bob De Grasse brings this entertaining little musical to the screen with the sure smoothness we've come to associate with his name. It's not what you'd call "a cameraman's picture," but he does a good deal more with the material at hand than might ordinarily be expected. Where there's any excuse for pictorialism, he provides it; where there aren't pictorial opportunities, he uses camera and lighting so deftly that the audience is seldom conscious of photography. And throughout, his treatment of the players is such as to present them at their very best.

I MARRIED A WITCH

United Artists' Release.

Director of Photography: **Ted Tetzlaff, A.S.C.**

Special Effects: **Gordon Jennings, A.S.C.**

This is an unusual picture in every way, and one which gives its cinematographer and special-effects technicians plenty of opportunity for spectacular achievement. A very great deal of the picture is of a nature which calls for strikingly dramatic mood lightings. Tetzlaff handles these superbly, and makes them thoroughly enjoyable to the photographically-minded.

His effect-lightings and compositions make "I Married a Witch" a picture one could enjoy seeing several times. His treatment of the players is, as always, excellent; we haven't seen Veronica Lake so well presented in some time, and what his camera has done for Frederic March deserves high praise, indeed.

Like the "Topper" pictures, with which it must inevitably be compared, "I Married a Witch" depends for much of its humor and effectiveness on the contributions of the special-effects staff. In this, Gordon Jennings, A.S.C., and his associates have distinguished themselves. Their work, like Tetzlaff's production camerawork, is spectacularly effective.

The direction of Rene Clair deserves careful study, too, especially in the smooth way his scenes flow together visually.

It is in a way unfortunate that "I Married a Witch" is one of the group of films made last year by Paramount, but

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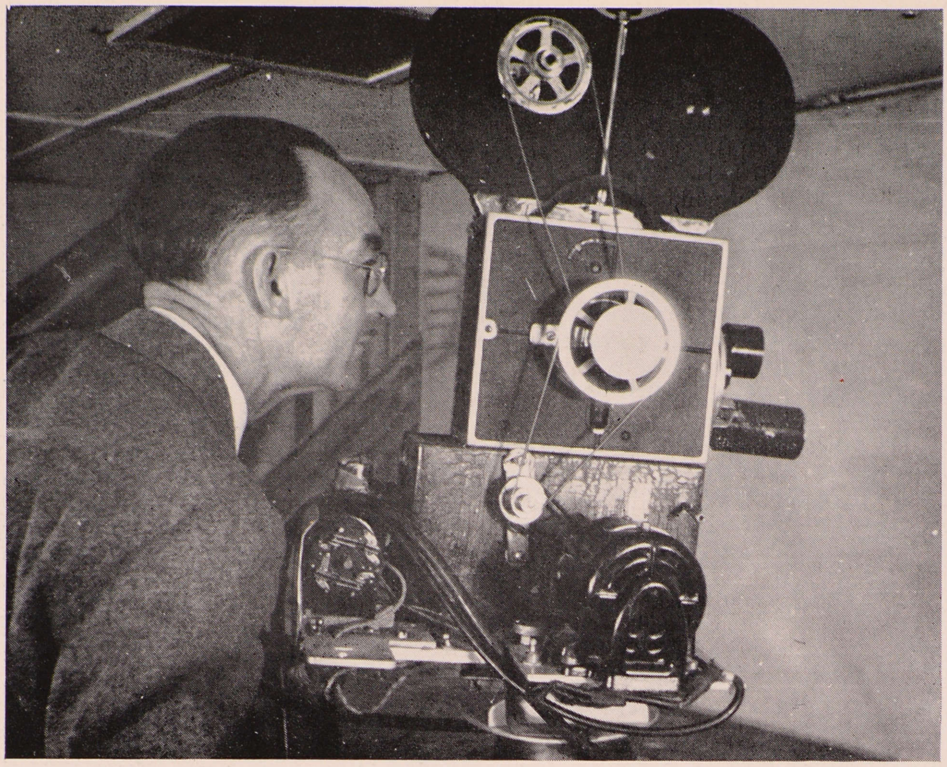

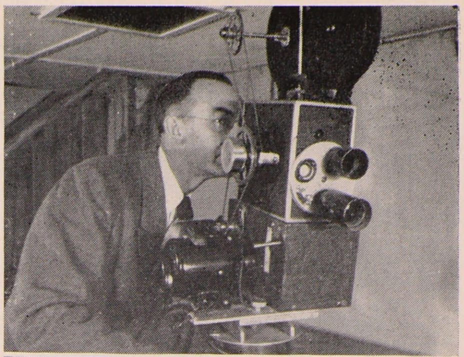

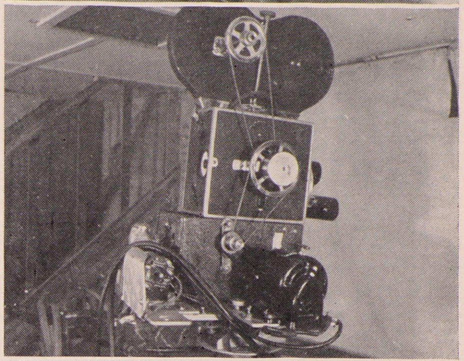

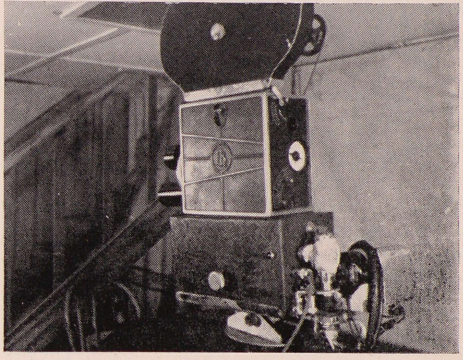

Ray Maker and his home-built 16mm. sound camera. The light-valve sound-recording unit is in the housing below the camera-head, which will be recognized as a modernized Model A Cine-Kodak.

I Made A 16 mm. Sound-Camera

By RAYMOND L. MAKER

EVERY amateur dreams of the time when he can make his movies "in sound" like the professional films he sees in theatres. And with most of the commercially marketed sound-film cameras and projectors priced well above the average amateur's reach, even in pre-priority days, most of us have looked to sound-on-disc as the simplest and most economical solution to the problem of sound. I did.

But after completing a successful feature-length amateur sound movie using sound-on-disc, I changed my mind. In "sounding" some of the sequences, I found myself using as many as seven turntables to handle the various discs carrying the dialog, music, sound-effects, and so on. And even when these various records were dubbed together onto a single disc, synchronization was always something of a problem—especially if the film broke, or had to be re-spliced.

So I decided that it would be much easier—and a good deal better all around—if I switched to the method used by the professionals—sound-on-film. Even if it necessarily meant making my own 16mm. sound-film camera.

Little did I realize what I was letting myself in for!

My first step, of course, was trying to find out *how* to make a sound-on-film recorder. After a futile search of the larger libraries, I came to the conclusion that the published material available simply wasn't suitable for 16mm. use. Although the material found was excellent, most of it dealt with 35mm., or in extremely broad generalities concerning 16mm. It just wasn't sufficiently detailed to help the fellow who wanted to make his own 16mm. sound-film camera. So I had to work things out for myself as I went along.

For the type of picture I make, and for the type of sound conversion I had in mind, I decided that the old, dependable Eastman Model A was the most suitable camera.

The first problems were to provide the proper separation—24 frames—between the sound and picture apertures, and to provide a smooth, continuous movement of the film past the sound-recording aperture. I decided that the most practical way to do this would be to run the film through a separate sound-head mounted below the camera itself.

Accordingly a light-proof box was built, 6 inches deep, 5½ inches wide and 12 inches long, with a removable plate on the left-hand side for loading. A slit was cut in the base of the camera-box to correspond with a similar slit in the top of the sound-recording box. The two units were then attached together.

A set of rollers and a flywheel constructed along lines similar to those used in the Amprosound projector were placed in the sound box in such a position as to give the correct spacing between the picture-aperture and the sound-recording slit. Directly behind the flywheel was inserted a light shield to prevent any stray light from hitting the film.

The recording unit was built as follows. Upon a base a center-bracket was placed to hold the light-valve. This valve was made from two pieces of block steel lapped together with a horizontal slit .001 of an inch deep and .260 of an inch wide.

Directly opposite, another bracket was installed to hold the vibrating unit, which was made from a rebuilt RCA phonograph pick-up. In place of a needle, a blade .001 of an inch thick, 1/16th inch wide and ¼-inch long was fitted, and honed to a razor edge on the side which strikes the beam of light.

The top block of the light-valve was set back .002 of an inch. The blade was then adjusted in front of the slit and directly over the bottom block. Both blocks were given a razor edge and blackened so that no unwanted light would reflect at broken angles.

To form the image of this slit on the

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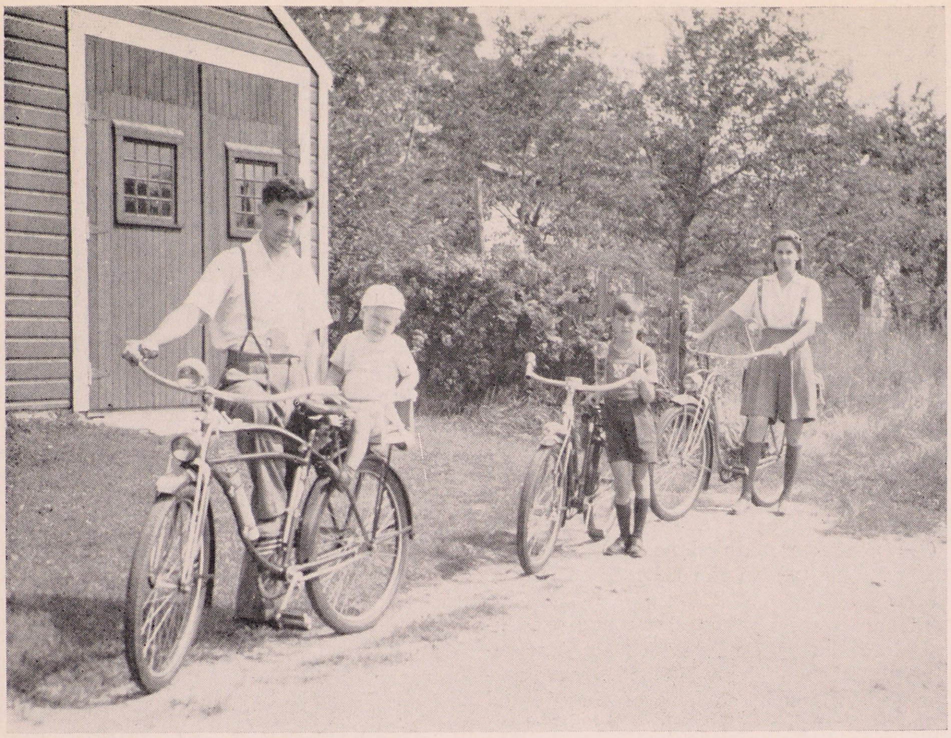

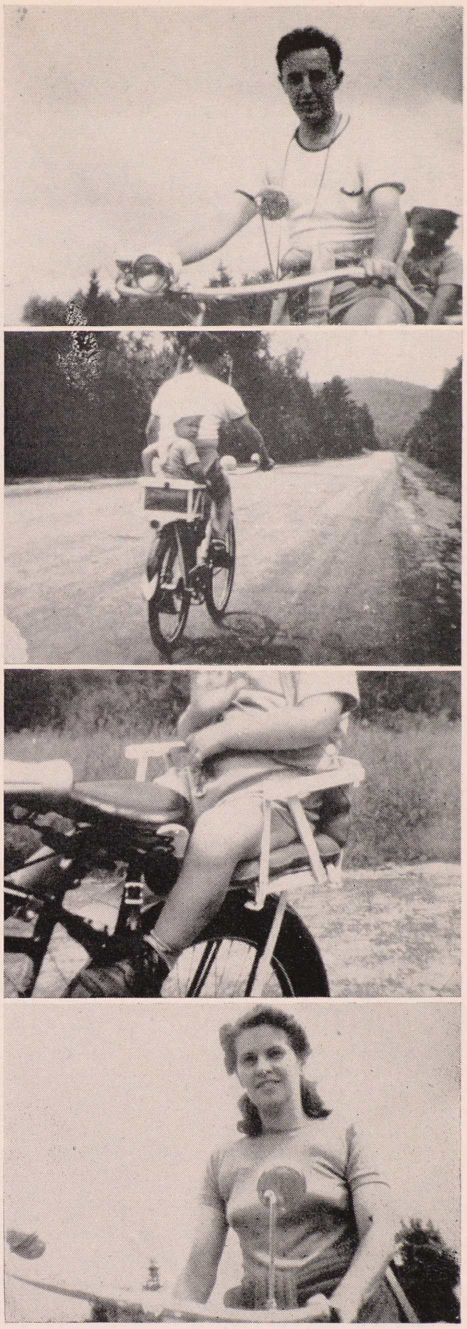

Left: the bicycling Beans ready to take off, Big Stan and little Douglas in the lead, Stan, Jr., as pace-setter in the middle, and Maryjane bringing up the rear with the luggage and the precious movie camera. Right: frame enlargements from the Beans' 16mm. picture, showing how it was done.

FREE WHEELING —

The Story of a Bicycle-Movie Vacation

By STANLEY and MARYJANE BEAN

WE had a car once.

We drove often into New Hampshire, over and through the White Mountains. It was one of our favorite movie-making and hiking spots.

The above sentences are very much in the *past* tense!

Last summer we had a few days vacation available, three bicycles and the desire to go into the mountains once more.

The above desire was *intense!*

So we loaded the wheels and the camera for what turned out to be one of the best vacation trips ever.

To know us better, here's Stan, Jr., seven last August. He was pace-setter, riding his own bike with a bag of tools and spare parts and recording the speed and miles with a cyclometer.

Douglas, the younger chap, 3 years old the day after Christmas, rode on an air-cushioned seat behind Daddy (Big Stan). This seat was attached to the rear-carrier holder by a metal piece held by two thumb-screws fastened to two bolts set through the bottom of the seat itself. It was as firm as the bike itself but easily removed without a wrench.

Sitting on the cushion, Douglas had a comfortable back, arm-rests, and straps slung under Big Stan's seat which served as stirrups for his feet. When traveling he has a safety strap around his waist. It is not possible for Douglas to fall out or off. The only chance of getting a bump would be if Big Stan took a spill which, luckily, he didn't.

Maryjane toted the real load: movie camera, film, clothing changes, bathing suits, maps and actual necessities (weight under 35 pounds). Our bikes were two-speed, carried lights, mirrors (worth their weight in gold!), and bells.

On the road we followed in this order. Big Stan first place; Stan Jr. following, and Maryjane last to keep her eye on the situation. In this order Stan Jr's pace is observed and ours regulated accordingly. He seemed to ride in better order when any amount of two-way traffic was encountered. All of us walked the upgrades and through cities with congested traffic.

The morning our trip began, we left our home in Amesbury, Mass., early on our bikes for a ten-mile jaunt to Exeter, N. H. to catch the Mountain Train which we boarded with our bikes for a lift to North Conway, N. H., the Eastern Gateway to the mountains. There we took to the highway and began the film record of our vacation in 16mm. Kodachrome.

We rode as we wished, over delightful birch-bordered byways, across mountain streams, through rustic covered bridges, seeking out the natural wonders and beauties of that region. Stops were frequent, as blueberries were ripe and plentiful!

Another day another train carried us at a snail's pace through the Crawford Notch along the spectacularly engineered railroad-bed of the Maine Central, cut out of the granite sides of the Willey Range nearly 1,000 feet above the motor road.

At Twin Mountain station we unloaded our vehicles with the help of the trainmen, as no one was on duty at the station. Our journey began away from the rails through this delightfully healthy

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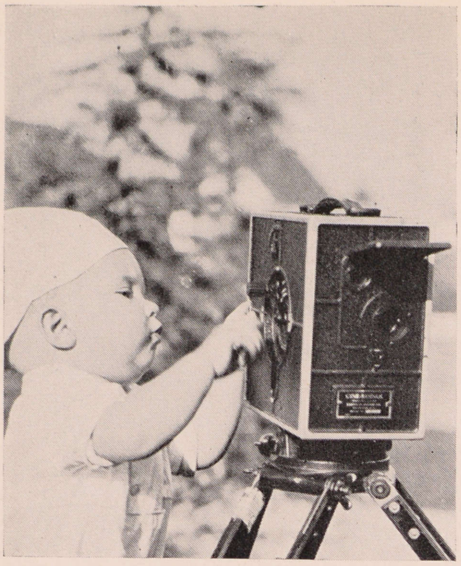
Forty-Eight Years of Home Movies

By WILLIAM STULL, A.S.C.



MOST amateurs probably feel that home movies and substandard film are relatively new inventions, dating from Eastman's introduction of 16mm. in 1923, and of 8mm. in 1932. But the first substandard camera made its bow forty-eight years ago, in 1895! Then, for nearly twenty-eight years, inventors here and in Europe struggled to perfect some means of bringing home movies to the masses in a safe and simplified form. Along the way, they introduced such professional refinements as the first pressure-plate and the first pilot-pin registration.

But until 1923 all of them failed of widespread commercial success for three very good reasons: the excessive cost of the negative-positive system; the excessive danger of using inflammable, nitrate-base film in the home; and the excessive complication of hand-cranked cameras. Once these three drawbacks had been removed by the introduction of reversal film coated on noninflammable acetate-base "safety stock," and the development of simple, spring-driven cameras, the brakes were off and home movies became a world-wide institution.

The first substandard camera—which appears also to have been the first designed for home movie use—was the "Kinetic" camera introduced by Bert Acres of London in 1895. Edison was already using the 35mm. film made for him by Eastman, and Acres got his narrower, and therefore less expensive, film by the simple trick of slitting standard 35mm. negative film lengthwise. This gave him a film 17½mm. wide, perforated only on one edge, as shown in Figure 1, with a picture half the size of a standard 35mm. frame.

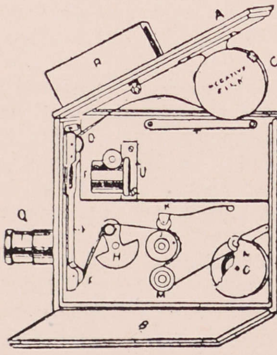


Figure 2: The first home movie camera—the 17½mm. "Kinetic" of 1895.

His camera is shown in Figure 2. The unexposed film seems to have been carried in a small, closed magazine (C) attached to the hinged top door of the camera (A). From there it fed forward and down through a long film-channel (D) past the taking lens (O) and past a sprocket (J) to the take-up magazine (G).

There were neither claws nor sprockets to give the film its intermittent movement. This was done, instead, by a beater (H) which at each revolution jerked the film down through the aperture enough to move it down one frame.

As may be imagined, this movement was rather rough on the film, and it was rather noisy, besides. But it had the advantages of being simple and of getting around some of the patents which stifled early-day development in cine-machinery. According to contemporary reports, this movement worked well enough to give "extremely steady pictures." It probably did, for it was used in quite a number of the early professional cameras, including the Gaumont and others.

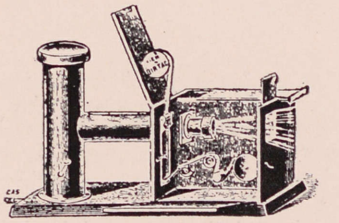


Figure 3: The "Kinetic" camera in use as a projector.

The camera served as its own projector. You simply turned it around as shown in Figure 3, and attached a lamp-house in which was a gas light. Then the auxiliary projection lens (U), about which you've probably been wondering, became a projection lens. The top of the camera-box hinged up and back to simplify the feed, and a neat little porthole at the opposite side of the box slid open so the projected image could continue on to the screen. The motive power, whether used as a camera or a projector, was provided by a hand-operated crank.

Most early-day cameras, by the way, were made like this, so that one mechanism could serve as a camera, a projector, and often as a printer as well. This was true even of much professional apparatus, for it kept the cost down and permitted a single unit to do everything.

People who have seen the center-perforated 9.5mm. film so popular in Europe usually comment on the novelty of the idea of putting a single perforation in the center of the film, between each pair of frames, and ask if it isn't something new. Novel it may be, but new it certainly isn't, for a center-perforated 17½mm. film (shown in Figure 4) was brought out by Wrench & Son in London soon after the introduction of Acres' "Kinetic."

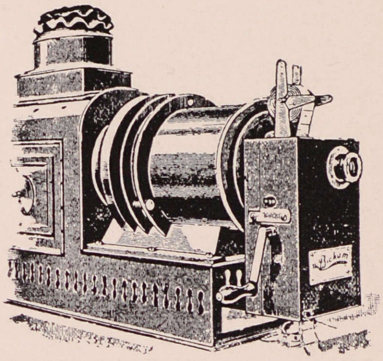


Figure 5: The "Biokam" camera projecting its center-perforated 17½mm. film.

This film was to be used with the firm's home movie camera, which was known as the "Biokam," which is shown in Figure 5. Like the "Kinetic," it was designed to photograph, print and project. Used as a camera, it was remarkably compact for its day, measuring 9½x5½x3½ inches, and selling for approximately $33. It was equipped with a German-made Rapid Rectilinear lens which worked at *f*:7.7.

Used as a projector, the taking lens was removed and replaced with another Rapid Rectilinear working at the remarkable aperture of *f*:2.5, and the camera was attached to an enormous gas, acetylene or oil lamp-house identical with those used in still enlargers. A bracket at the top held the unspooled roll of film to be projected, and the projected film ran out of the bottom of the box onto the floor, or maybe into a wastebasket. In this, the "Biokam" projector followed the design of the professional projectors of the period, none of which had take-ups.

A very similar camera was made by Hughes, also of London. It, too, used a center-perforated 17½mm. film, but with a square perforation instead of a slot-shaped one. This was to permit better registration. Used as a projector, it was one of the first to be fitted with a take-up magazine.

The 1900 Reulos, Goudeau & Co., of Paris, put on the market an amateur movie outfit known as the "Mirograph." This used film 21mm. wide which, instead of having perforations, had notches cut in its edges as shown in Figure 6. The camera cost $50, and the

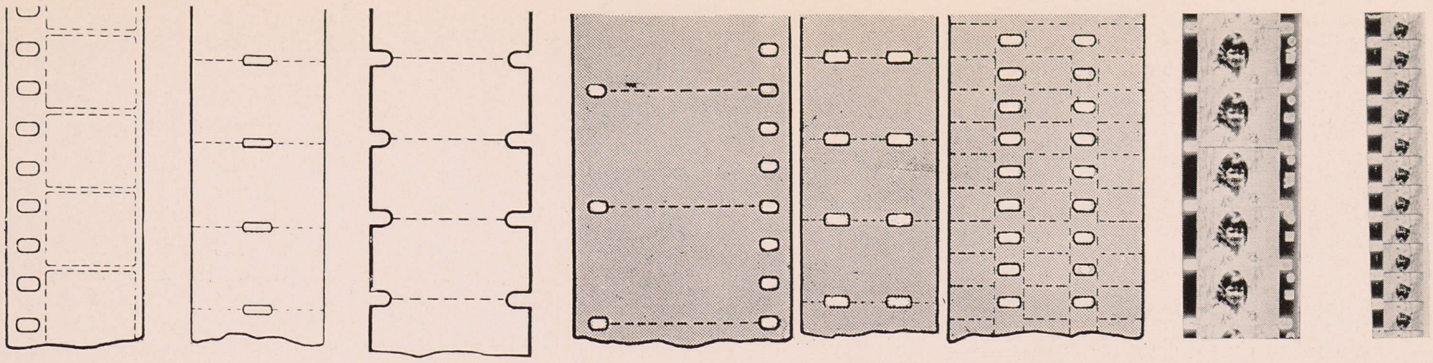


Fig. 1 Fig. 4 Fig. 6 Fig. 10 Fig. 9 Fig. 7 Fig. 14 Fig. 15

Forty-eight years of home movie film, including split-35 17½mm.; center-perforated 17½mm.; 21mm.; 22mm. (Edison); 22mm. Pathescope; and today's 16mm. and 8mm., all shown approximately actual size.

gas-lit projection lamphouse $16 extra. With this illumination, the "Mirograph" would project a picture at least three feet wide, and with a more expensive arc lamp it would even give a 12-foot picture.

About the same time the big French professional firm, Gaumont, entered the amateur field with its "Pocket-Chrono," which used a center-perforated film 15mm. wide and, of course, the Gaumont-Demeny beater movement.

About this time, in the early years of the century, Edison introduced a system of home movies, though he seems to have concentrated on a projector which would run special prints of professionally-made films rather than upon a real camera-projector home movie system. The projector was built along the general lines of the standard projectors of the period, but it was made to use a special film, 22mm. wide, with three rows of pictures and a row of perforation between each row, as shown in Figure 7.

After cranking the film through the projector to show the first row of frames, the projection aperture was moved over to the next row, and the film was run through again, this time in the opposite direction. Finally, the aperture was moved over again, and the film run through a third time—forward, this time—to show the third row of pictures.

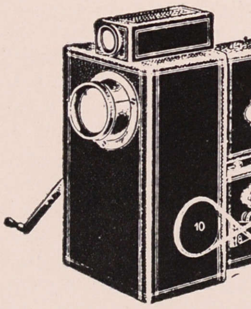


Figure 8: The 17½mm. Ernemann "Kino" of 1903.

In Germany, Ernemann, of Dresden—already one of the big names in the still-camera field—made a strong fight to popularize home movies. In 1903 they introduced their first home movie camera, the "Kino," shown in Figure 8. This was a very compact little camera consisting of a box measuring 2.4x5.6x3.2 inches, and two detachable metal magazines which held 33 feet of center-perforated 17½mm. film. The film was moved by a claw-type intermittent, and held in register during the exposure by a pilot-pin. The camera was of course hand-cranked, with both the standard eight-pictures-per-turn shaft and one-frame-per-turn "trick" shaft customary on professional cameras. The take-up was driven by a wire belt.

The following year an improved model of the "Kino" was introduced. In this model the two single magazines were replaced by one double magazine, and the take-up was driven—independently of the hand-cranked operation of the camera—by a spring-powered clockwork mechanism. The claw intermittent was replaced by an intermittent sprocket driven through a Maltese or Geneva cross and cam like those used in 35mm. projectors. Constant focus was ensured by a pressure-plate which appears to have been the first one used in any movie camera. This model could be used interchangeably as a camera, printer or projector. In the latter use, it was placed on a special stand fitted with a fixed lamphouse.

In 1912 the French firm, Pathe Freres, introduced their first substandard outfit —a projector known as the "Pathe K-O-K," apparently in reference to their famous rooster (or cock) trademark. It was built to take a very special film, 28mm. wide with the professional standard of four perforations per frame on one side, and two perforations per frame on the other, as shown in Figure 9.

In creating this special film-size the Pathe people seem to have been motivated less by a desire for economy than by a desire to keep the dangerous 35mm. nitrate film out of the homes; the 28mm. Pathe was one of the first, if not actually the first commercial users of non-inflammable acetate-base "safety" film. The special perforation, which was of course patented, was a neat little safeguard to prevent Pathe films from being used on any but Pathe projectors. The firm built up quite an extensive library of these films—reductions from Pathe productions, both French-made and American-made—for use with these projectors.

The "K-O-K" projector itself was a self-contained unit. As electricity was not available in many parts of Europe in 1912, current for the projection lamp was generated by a small dynamo belted to the crank which drove the projector. A clever friction drive mechanism prevented the current generated this way from exceeding that which was safe for the lamp, no matter how fast the projector was cranked.

A year later, this system was introduced in America under the name "Pathescope." Here, the projector was made for use on the regular electric light circuits, and a camera for taking home movies on 28mm. negative film was also marketed.

The 28mm. standard became quite popular in American home movie and educational circles, and several American-made 28mm. cameras and projectors were developed. These, of course, used 28mm. film with the regular four-perforations-per-frame arrangement on both edges. In 1918 the Society of Motion Picture Engineers officially recognized this "Safety Standard."

These "Safety Standard" 28mm. prints could of course be run on any Pathescope projector, while the "Pathescope Standard" prints could be run *only* on Pathescope projectors. Both systems used acetate film, but employed negative-positive, so that the only real advantage gained was safety, and there was very little, if any, reduction in expense.

In 1912 there appeared another interesting little home movie outfit known as the "Duoscope." It took center-perforated 17½mm. negative film with two perforations, side by side, instead of one, between the frames, as shown in Figure 10. The movement consisted of a double arm which moved the film onto and off from two fixed pilot-pins. The camera could be used as a projector, in which case the light was supplied by a pocket flashlight battery! In addition, the negatives could be enlarged onto a succession of small paper prints which were bound into little pocket-sized books in which the pictures could be viewed—*in motion*—by rapidly flipping the leaves through the hand.

Soon after this Charles Urban, a well-known professional producer and designer of the time, brought out a short-lived but interesting system known as the "Spirograph." In this the film was made in the shape of a disc, with the frames arranged spirally, like the grooves in a phonograph record. Although both cameras and projectors seem to have been made for this system it was a failure because it prevented any possibility of editing the films, or even cutting out bad frames, while of course only a very limited amount of action could be recorded on each disc.

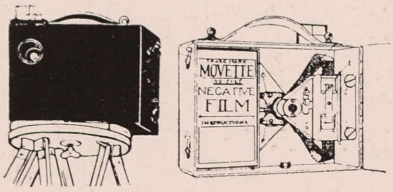


Figure 11: The 17½mm. "Movette" of 1917.

From Rochester in 1917 came a camera which can be called a genuine ancestor of today's home movie cameras. It was the "Movette" (Figure 11) which used 17½mm. film with two perforations per frame on each edge, almost exactly like the silent 16mm. film of today. The film—it was negative, of course—came in a daylight-loading magazine of 50-foot capacity, in which I believe it was also returned to a central laboratory for development and printing.

The camera was unusual in that the magazine was placed at right angles to the axis of the lens, as may be seen from the illustration. The camera was of course hand cranked, and a separate mechanism — also hand-cranked — was used for projection.

The following year another American-made camera for this 17½mm. film was introduced by the Wilart Instrument Co., of New Rochelle, N. Y., who were already favorably known as the makers of a professional camera patterned after the French Pathe Studio Camera. The Wilart 17½mm. outfit was known as the "Actograph," and was of virtually professional design, metal-bodied, with a Bausch & Lomb Tessar lens. The film was carried in double outside magazines which were virtually a miniature of those used on professional Bell & Howell or Mitchell cameras, but only of about 100-ft. capacity, and slanted rakishly on the upper rear corner of the metal camera-box.

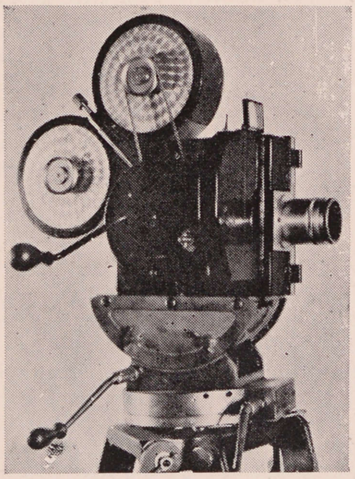


Figure 12: The 35mm. Wilart amateur camera, an enlarged version of the 17½mm. "Actograph" of 1918.

The same design was later enlarged to a 35mm. outfit of 200-ft. capacity and known as the "Wilart News Camera, (Figure 12.) In this form it was an excellent camera for the 35mm. beginner, as this writer can testify, having started his movie-making career with one. Still later, a much simplified 35mm. version of the design was marketed by the New York Institute of Photography for its students, under the name "Institute Standard."

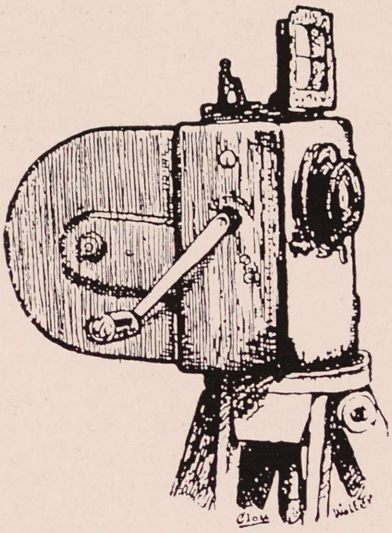


Figure 13: The 17½mm. "Clou" of 1920.

In 1920 an Austrian firm introduced another 17½mm. camera known as the "Clou" (Figure 13). This used film much like that used by the "Movette" except that the perforations were round instead of rectangular. It had a semicircular magazine in the rear and employed a single sprocket for both feeding and taking up the film. The intermittent movement was driven through a heart-shaped eccentric cam, and would operate equally well either forward or backward.

The last two attempts at 35mm. amateur cameras came respectively from France and Germany. About 1920 DeBrie, the big French professional camera-builder, introduced the "Sept," the first spring-driven, hand-held movie camera. It held slightly over 15 feet of 35mm. film in daylight-loading magazines essentially similar to those used today by the Leica and Contax 35mm. miniature still cameras. This footage could be exposed either as 15 seconds of movies, or as 250 individual stills. It could be used as a camera, a printer or a projector, and may be considered the forerunner of both today's 35mm. hand cameras like the Eyemo and the 35mm. miniatures like the Leica and Contax.

In Germany the firm of Ica, A. G.—now a part of the Zeiss-Ikon combine—brought out the "Movex," a hand-cranked 35mm. home-movie camera which used 35mm. film in 33-foot magazines. It was the direct ancestor of the later Zeiss-Ikon "Kinamo S-10," several of which were sold in this country, and the more recent "Movikon," also occasionally seen here before the war. When the writer visited Germany in 1925, he saw 35mm. Agfa reversal film spooled for use in these "Movex" cameras, though as this was after Eastman's introduction of 16mm. reversal film, it is likely that this 35mm. reversal was introduced in an attempt to compete with the then growing popularity of 16mm.

Then in 1923, American ingenuity paved the way to the first genuinely successful system of home moviemaking. Eastman introduced the 16mm. standard (Figure 14) and the reversal film idea, coupled with a company-operated processing service which assured every user of the film of uniformly perfect processing.

This move drastically slashed the costs of amateur moviemaking. When this writer started out as a 35mm. amateur, more than twenty years ago, the bare costs of negative film, developing, and printing totalled about ten cents a foot. Eastman's first 16mm. reversal film sold for six cents a foot, including processing and return postage from the Rochester processing plant. And in 16mm. one foot of film gave the equivalent in screen time of 2½ feet of 35mm., so that 16mm., judged on a basis of screen time, cost its user about a quarter of what an equivalent amount of 35mm. would. A 15-minute, 400-foot reel of 16mm. cost the amateur $24; a 1,000-foot reel of 35mm., giving the same screen time, would cost him over $100. No wonder 16mm. got off to a good start!

It is rather hard to determine which of the three firms—Eastman, Bell & Howell, and Victor—which between them pioneered 16mm., actually put the first 16mm. camera on the market. Certainly the three worked fairly closely together, for without Eastman's film, the other manufacturers' cameras would be of little use, while without a variety of cameras in varying price ranges to use it, the film, too, would be of little commercial value.

The sturdy old hand-cranked "Model A" Cine-Kodak is generally regarded as the granddaddy of all 16mm. cameras, though the Victor people tell us that their first 16—an adaptation of an earlier, hand-cranked 17½mm. model—antedated the Cine-Kodak by a few months. And the Bell & Howell "Filmo" was incontrovertibly the first to introduce the simplicity of spring-motor operation in place of hand-cranking which, though it seems simple, is none the less something which requires practice to do well, not to mention the firm foundation of a tripod.

All of these cameras made history in another way, too: they were one-purpose devices. For almost the first time in the twenty-eight-year birth throes of home movies, cameras were designed strictly to photograph pictures, and entirely separate units were provided to project the films.

And so, after twenty-eight years, home movies arrived. They arrived not so much because big and powerful companies stood behind the development (that had happened before, and failed)

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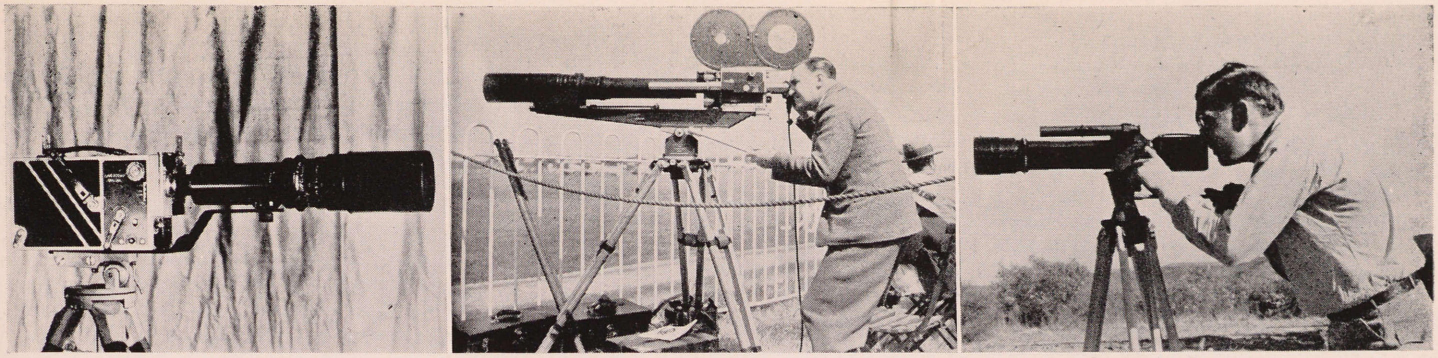

Left: 12-inch Dallmeyer Telephoto mounted on a Cine-Special. Center: 40-inch "Dallon" telephoto mounted on a 35mm. Vinten camera. Right: 20-inch Cooke telephoto mounted on a magazine-type "Filmo." Note auxiliary reflex focuser included in lens-mount, and use of surveyor's transit as finder.

POINTERS ON USING TELEPHOTO LENSES

By JACK SMITH, A.S.C.

IF you want my very best advice on the subject of using telephoto lenses, it can be summed up in the three words "don't use 'em." At least, not if you can possibly manage to get out of it and make your shot with a more normal, shorter-focus lens. A scene made with a telephoto can never be as satisfactory photographically as one made with a normal lens.

In the first place, it's characteristic of telephotos that scenes made with them are flatter than those made with shorter-focus objectives. The photographic contrast is a good deal flatter, and so is the visual perspective.

For instance, if you make a full-screen shot of a man with, say, a tree, a fence or a building perhaps a hundred feet behind him, and a hill maybe a quarter of a mile in the background, a shot made with a normal lens will give you a pretty good idea of the spatial separation between the three. A telephoto shot taking in precisely the same field will compress these planes—or flatten them—so that man, tree and hill will seem much closer together, and perhaps hardly separated at all.

Moreover, there are special problems in mounting, focusing and aligning telephoto lenses which you never encounter with ordinary objectives. And atmospheric conditions you'd hardly notice when shooting with a normal lens can give you all sorts of headaches when you start working with a telephoto.

But of course there are times when you've simply *got* to use a telephoto if you want to get the picture. We don't often run into them in studio camerawork or in ordinary home moviemaking; but in field camerawork, making newsreels, documentaries, films of wildlife, and so on, we do. And of course in today's military combat camerawork the difference between using a telephoto and a short-focus lens may often be very literally a life-and-death matter.

So if you're going to use a telephoto, begin by being sure it's a good one. With ordinary lenses, as most of us have found out, there are some types which have the characteristic of giving crisp, sharply-defined images, and other types which, no matter what you do with them, will never give you anything but a comparatively soft picture.

It's the same with telephotos. Only, if anything, rather more so. And in telephoto work, you need every bit of sharpness your lens can give you. So begin by getting a lens that has the sharpest, wiriest characteristics you can get. After all, if a lens is too sharp, you can always soften the image down; but if the definition isn't there to start with, nothing you or anybody else can do can put it into your picture.

My personal preference, if it matters, happens to be for Zeiss telephotos, while a good many of my friends swear by Cookes. For 16mm. use I've never heard any complaints about either Cooke or the Kodak Anastigmat telephotos.

Incidentally, in these days when it isn't any too easy to get hold of lenses —good or bad—here's a little fact that may be helpful. A true telephoto lens, you know, is one specially designed so that it gives the equivalent angle of a long focal length lens without requiring the full separation from the focal plane that its equivalent focal length would ordinarily demand. A twelve-inch telephoto, for instance, may require a separation from the film of only six or seven inches instead of the full twelve.

However, if you don't mind having a bulkier lens-mounting, you can mount any ordinary long-focus lens for use as a cine telephoto. A lens like that will almost certainly be designed to cover a picture larger than the movie frame you're using it on. Using it on a much smaller picture-area, you'll be using only the center of the image—the part where the definition and optical correction are the best. In this way you can often make a lens which in itself isn't so hot give quite satisfactory results.

This is true when you take a lens originally intended for use on a 35mm. camera and remount it for use on 16mm. The editor of this magazine, for example, tells me he has a lens—a 3-inch, *f*:1.9 Dallmeyer—which, when he used it on his 35mm. camera was so lacking in sharpness that he pretty well abandoned it in favor of a much slower—but sharper—Goerz. But since he has had the *f*:1.9 lens remounted for use on his 16mm. Filmo, it has suddenly turned into an excellently sharp lens. The reason is, of course, that on 16mm. he is using the lens on a picture-area only one quarter as large as that of a 35mm. frame, and by using only the center of the image, he is using just the very best part of the lens' image. The same thing is true when you take a much longer-focus lens off a Graflex or other still camera and use it on a cine-camera.

Mounting a telephoto is a vitally important factor in getting good results. If you've tried any telephoto work at all—even with the less powerful tele-lenses—you know that the first essential of good telephoto camerawork is to provide the rigid foundation of a good, solid tripod. For practical purposes, you might consider the action of a telephoto lens as being like that of a lever with its fulcrum at the center of the lens. The image is balanced at the tip of the short end of the lever, and the scene itself is balanced precariously at the end of an infinitely long lever-arm. Obviously, even the tiniest bit of motion at the end of the short arm will make the scene at the end of the long arm jump tremendously. In consequence, the resulting picture will jump all over the screen. In the same way, any unsteadiness between the lens and the camera will be magnified enormously.

For the lower-powered telephotos—up to, I should say, about a six-inch focal length—the ordinary screw or bayonet type mounts used on good 16mm. or 35mm. cameras will usually be adequate. But beyond this, telephoto lenses need

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Amateur Movies and the War Effort

By W. G. CAMPBELL BOSCO

SPEAKING on the occasion of last year's Academy Awards Banquet, to an audience of film notables still trying to adjust the pattern of their thought to the reality of War, John Grierson, Film Commissioner for the Dominion of Canada, said, "There is a duty which falls on all in this industry alike. It is humble, it is deeply ordinary. It carries no honors with it. Theatres will not applaud it: like private soldiering it will go completely unnoticed.

"But it is none the less vital. It is the simple duty of helping the country with its every-day chores of war publicity and instruction.

"We can use the film to help the fighting services in their daily instruction. We can help the thousand-and-one Civilian Defense Services to a better understanding of their sometimes quite local duties. We can aid industrial morale and speed the organization of new skills in the service of our country.

"We have the difficult duty—the most difficult of all from a mental point of view—of shaping from our war observation on every front, both military and civilian, the strategic pattern of highly complex events. Of helping the people to a broad and simple understanding of what is happening—of where they fit in—of what in duty is expected of them.

"Nothing is so certain as that men cannot give their best if they are bewildered, and particularly so in a democracy; and the greatest, perhaps, of all our film responsibilities is to give people, in simple dramatic patterns of thought and feeling a sense of the true issues which lie behind the maze of events in this difficult moment of human history.

"There is a contribution which every kind of film and every kind of technician can make to help everyone, on military and civilian front alike, to do his job just a little bit better and feel, however obscure he may be, a fighting force in the national effort. This sober and humble and unselfish duty of helping the people, wherever they may be organized, to effective citizenship and good soldiering, will be the best evidence that we have, in all reality, aligned our art with the public purpose and have dedicated it, in all realism, to the pressing needs of our United cause."

A year has passed since these words were spoken. A year has seen the entire National effort reoriented to meet the demands of Total War.

During this period the people of the motion picture have met their wartime obligations enthusiastically, and have produced countless evidences of the power of the motion picture as a weapon of modern war. And by the phase "the people of the motion picture" we cannot by any means restrict our meaning only to the professionals of Hollywood. Their contribution has been enormous: but it is by no means all. The makers of 16mm. educational and industrial films have also played an active, if unpublicized, part in this effort.

And so have America's amateurs. Some Clubs and individuals have done yeoman service in making—often at their own personal expense—films on Civil Defense subjects for their own communities. Some of them, like the Long Beach Cinema Club's "Fire From the Skies," are in every way "professional enough" to merit national release.

Many other individuals and groups have found their way of service in projecting 16mm. films for Army posts and Civil Defense meetings. The Syracuse Movie Makers' Association, for instance, has taken over the task of providing motion picture entertainment for the troops at a big Air Force base nearby. The Long Beach Cinema Club has been doing its collective bit by going out to the remote posts, gun and searchlight emplacements, etc., guarding the nearby coast and defense plants, and putting on shows for these men whose duty prevents them from leaving their stations long enough to enjoy the normal recreational facilities open to the men in the large Army Camps. And you can bet your bottom dollar that these soldiers and sailors are a most enthusiastic audience, regardless of whether the films shown are silent or sound, professional or amateur!

Amateurs who voluntarily engage in tasks like this are patriotic enough to be willing to do it on their own time, with their own gasoline and tires, and using their own equipment. But sooner or later they come up against the problem of getting fresh program material. They've shown all the worthwhile amateur films that are available to them, and all the professionally-made 16mm. films they can afford to buy. But the soldiers are still there, or the civilian defense meetings still carrying on—and somehow, they must get film for them. New pictures that these audiences haven't already seen.

Fortunately, several Government agencies, in collaboration with civilian film-library organizations, are launching programs which will help solve this problem.

The Office of War Information, for example, is making available 16mm. reduction prints (in sound) of its constantly increasing library of films made to inspire, instruct and keep the people abreast of the War Effort in all its many phases. These films are being made available for a service fee of only fifty cents for the first subject on the program, and twenty-five cents for each additional subject.

These productions present visual evidence of what's going on in this country of ours in this time of Total War. They show the increasing might of America's wartime production as the "arsenal of democracy." They show what the civilian can do—and also, in some cases, what he *should not* do.

They're professionally made in every respect. The photography is by such men as Carl Pryer, A.S.C., Lt. Floyd Crosby, A.S.C. (probably America's outstanding photographer of documentaries), and by various outstanding studio cinematographers. The musical scoring is admirable, and the commentaries written by such notables as Carl Sandburg, Eleanor Roosevelt, and others, and read by such professionals as Frederic March, Spencer Tracy, Katharine Hepburn and Lt. James Stewart.

The series available at present include "Aluminum"; "Bomber"; "Building a Bomber"; "Building a Tank"; "Democracy in Action"; "Lake Carrier"; "Men and the Sea"; "Power for Defense"; "Ring of Steel"; "Safeguarding Military Information," and many others. Also—in color—is that epic of Walt Disney's, "The New Spirit," in which Donald Duck makes it almost a pleasure to pay one's income tax. Five releases per month are planned for the future.

In much the same way, the Coordinator of Inter-American Affairs has released a series of pictures dealing with the life of our Latin-American neighbors below the Rio Grande. From one to four reels in length, most of these subjects are in color, and all are available on the same terms as those released by the O.W.I.

"Our Neighbors Down the Road" concerns itself with the events and scenes of a motor trip through South America along the new Pan-American highway. "Bounteous Earth" records the festivities of Candlemas day in the ancient city of Cholulu, Mexico. Then there are "Patagonian Playground"; "Sunday in the Valley of Mexico"; "A Line from Yucatan"; "Guatemala Sketch-book"; and "Americans All," a two-reel picture showing intimate glimpses into the lives of those other Americans, our neighbors, who live in that vast and beautiful section of the earth which stretches from

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HERE'S HOW

For many years an important feature of The American Cinematographer's service to its readers has been the answering of technical questions about professional and amateur movie-making. The majority of these queries require replies too detailed to be answered by publication; but from time to time, as space permits, we publish the answers to some of the more interesting, or the more frequently asked, of these questions in this department. We invite all of our readers to make use of this service.

LIP-SYNCHRONIZING

Q: Recently I heard of an amateur who used a flexible cable between projector and recorder to lip-synchronize home movies. How is the camera connected with the recorder? —C. H. B., Chicago, Ill.

A: According to John Leffler, Minneapolis movie maker, who devised the set-up, the only cameras which may be adapted successfully for simultaneous photographing and recording by this method are the Eastman 8mm. Models 20, 25 and 60. Leffler mounts a motor on the camera, with necessary gears and a flexible cable, which may be attached to most any recorder. To attach the motor, however, a slight alteration in the camera is necessary. Of course, the motor is readily detachable again.

FRAME ENLARGING

Q: I am an 8mm. fan, and some of my 16mm. friends tell me that they have had good success in enlarging their frames as "stills" for contact printing. Is an 8mm. movie frame enlarger available?—B. T., New York City.

A: During 1941 the Craig Movie Supply Co. introduced a modification of their well-known "Projecto-Editor" film-viewer which permitted making enlargements from 8mm. frames. However, due to the war only a limited number of these "Enlargo-Editors" were manufactured, and while some may yet be available, they are not easy to obtain. It is possible, though, to make 8mm. frame enlargements with Eastman's 16mm. enlarger by masking off the part of the aperture not filled by the 8mm. film with opaque Scotch tape. Enlarged negatives can also be made by projecting the desired frame on a piece of cut film in a darkroom or in a pyramidal hood attached to the projector, and developing the copy negative in the usual manner. Exposure must be short, and focusing may be done on a white card of similar size before substituting the sensitized film. Our experience has been that the best results come from enlargements of fairly close shots, preferably Kodachrome, and using a film like Verichrome or Plenachrome for the enlarged negative.

FADES AND DOUBLE-EXPOSURES

Q: I wish to get a camera that will permit me to lap-dissolve, fade, and double-expose. What do you suggest? C. R., St. Mary's, Pa.

A: Only the more expensive cine outfits permit professional touches such as dissolves, fades and multiple exposures. There are some firms, however, which have specialized in rebuilding cheaper cameras to permit these effects. Even without these gadgets, lap-dissolves and double-exposures are easy if you use a double-run 8mm. camera. All that is necessary is to mark the starting-point of the first run accurately on the film and make an accurate record of the footage run off between that point and the point you start your dissolve or double-exposure. After making the first "take" of your dissolve or double, run the rest of the roll through the camera twice with the lens capped. This brings you back to the starting-point, after which (still with the lens capped) you can run off the necessary footage to bring you to the starting-point of the second "take" of the dissolve or double. After making that, finish the roll in the usual manner.

8MM. OR 16MM.?

Q: Although I've had the movie bug for some time, I'm planning at last to buy a cine outfit. Shall I get 8mm. or 16mm.?—E. S., Billings, Mont.

A. The type of camera you get will depend on the amount you want to spend and the use to which it will be put. If you plan to shoot only for a personal record for home screening, the 8mm. will do the job, but the 16mm. will probably give you sharper pictures, thus permitting you to project them on larger-sized screens, and if you have the ability, to make some commercial use of your films. On the other hand, 8mm. is cheaper to buy, and you can get nearly three times as much screen time in 8mm. for the same money spent buying film. And as the Armed Forces are making constantly increasing use of 16mm. for combat and other camerawork, it is probable that 8mm. equipment will be somewhat more readily obtainable "for duration."

DEVELOPING MOVIES

Q: How can I develop my own movies?—J. L., Newcastle, Pa.

A: Since Kodachrome can only be processed by the manufacturer, we assume you mean black-and-white movies. Sixteen millimeter negative film, and the positive film often used for titling in either 16mm. or 8mm. are developed like a still-camera negative, but reversal-film must be developed, "flashed" to reverse the image, and redeveloped. As many amateurs have proven, this can be done at home, though until you've gained the requisite skill, the results are likely to be inferior to those obtained by sending your film to a regular Eastman or Agfa processing station. Full instructions, including list of darkroom essentials, may be obtained from the film manufacturers or in such standard reference works as Morgan and Lester's "Photo-Lab Index," etc. With the exception of the fact that drums or racks must be used in processing motion picture film, the methods and formulae recommended for Agfa's 35mm. Reversible Superpan, for Dufaycolor, and for the old Lumiere Autochrome and Agfacolor color plates will work satisfactorily for reversing 16mm. film.

AIR MOVIES

Q: What speed would you suggest for taking movies at low altitudes from an airplane?—F. H., Duluth, Minn.

A: At altitudes of several thousand feet, normal 16-frames-per-second speed will suffice, but when you drop below 1,000 feet, 32 frames will smooth out rough air and slow up the fast-moving terrain. Ducks Unlimited observers, on their annual aerial survey of the Canadian North, report that they get their best results filming waterfowl at 64 frames while flying at 100 to 400 feet off duck-infested lakes. Of course, much depends on the speed of the plane and the angle at which you shoot.

FILMING PARADES

Q: I have a passion for shooting color movies of parades. How should I vary my shots to prevent sameness throughout?—M. D., Los Angeles, Calif.

A: Look for unusual angles. Try worm's eye and bird's eye views. Avoid head-on movies. Newsreel cameramen find that a fairly lofty camera position over the heads of the crowds and with the marchers coming diagonally into the camera gives a desirable effect. In filming a recent Ice Carnival, the St. Paul Amateur Movie Makers Club placed a high-walled empty furniture truck beside the line of march where lighting and shooting angle would enable members to photograph to best advantage without the usual crowd-jostling. Since you can't do that these days, try setting up on the protruding marquee of a theatre, hotel or the like so you can get above the crowd and fairly close to the edge of the sidewalk.

BIG SCREENS

Q: I have heard that some amateurs have successfully projected 8mm. movies to fill an 8x10 foot screen. Is this entirely satisfactory?—M. H. O., Starkville, Miss.

A. Two Minneapolis amateur movie clubs have already put on 8mm. shows in a theater-size auditorium, filling an 8x10 foot screen. Special equipment was used, however. An Eastman 8mm. Model 70A projector was fitted with a 750-watt lamp, with voltage boosted by transformers to 125 volts. A specially-shimmed Bell & Howell 1½-inch projection lens was used to give maximum brilliancy for the long throw. It is not advisable to use high-wattage lamps in some projectors, for damage to film or motor might result.

AMONG THE MOVIE CLUBS

"Nation Builders" For 8-16's

Highlight of the January meeting of the 8-16 Movie Club of Philadelphia was a showing of James A. Sherlock's great film "Nation Builders," from the library of THE AMERICAN CINEMATOGRAPHER. Other highlights of the meeting included a demonstration of the Club's new point system of rating films, and a demonstration of how a film can gain or lose points according to the choice of a good or bad musical background. The meeting was planned and organized by Phil Oetzel and George Burnwood.

FRANK HEININGER.

San Francisco Elects

The January meeting of the Cinema Club of San Francisco was the first to be held under the guidance of the Club's 1943 officers, elected at the Club's December meeting. They include Rudy Arfsten, President; L. M. Perrin, Vice-President; Adaline Meinert, Secretary; Jesse W. Richardson, Treasurer; and C. D. Hudson, D. L. Redfield and F. C. Younberg as Directors.

The scheduled program included "Wedding at Stanford Chapel," an excellent 16mm. film by K. A. Meserole of the Peninsula Home Movie Club; "Ice Follies," filmed by Len Fogassy, the prominent skating instructor, and planned especially to show ice skating technique; and "Careless Heiress," a comedy by Member Eric Unmack.

ADALINE MEINERT, Secretary.

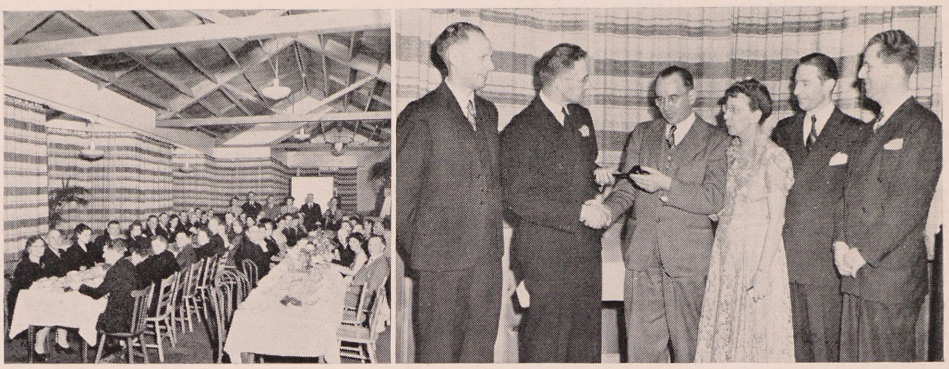
Preview For Tri-City

Feature of the January meeting of the Tri-City Cinema Club of Davenport, Ia., and Rock Island and Moline, Ill., was a "sneak preview" advance showing of scenes made by John Hoffman at the December Annual Banquet. Also scheduled was a talk by Dr. James Dunn, "What My Movie Camera Has Done For Me," and the projection of members' films including "Animals and North Woods," 400 ft. 16mm. Kodachrome by Jacob Accola. It was announced that all films shown before the Club's June meeting will be automatic entries in the Annual Contest, while later entries may be made by turning the film over to the Contest Committee.

WILLIS F. LATHROP,
Secretary-Treasurer.

Color In Philadelphia

In keeping with his reputation as a producer of fine Kodachrome pictures, Robert Crowther brought to the screen of the Philadelphia Cinema Club's January meeting his latest film, "Grand Manan." To the casual observer, the film seemed to lack the brilliant color of his previous pictures, but it gave a true rendition of the foggy atmosphere of Grand Manan and its sister islands in the Bay of Fundy. A complete story of the herring industry was captured by the energetic cinematographer who sailed out into the bay at 4 a.m., and got his camera going just as the fog lifted. The succeeding sequences showed the fishermen laying their nets and bringing in a record catch, unloading it at the wharf, and the final smoking.



LONG BEACH INSTALLS. Left: members of the Long Beach Cinema Club turned out over a hundred strong for the Club's annual Installation Banquet January 6th. Right: the Editor of THE AMERICAN CINEMATOGRAPHER hands the gavel to incoming President Claude Evans. Left to right, Treasurer A. W. Nash; President Claude Evans; Editor Stull; First Vice President Mrs. Mildred Caldwell; Secretary Lorin Smith, and Second Vice President Pat Rafferty. Photos by Clifford Lothrop.

Mr. Robbins, representative of a local Bell & Howell dealer, gave helpful suggestions for indoor lighting. Two delightful films were contributed by Neil MacMorris: "Autumn," a beautiful picture taken in the Poconos, and a repeat showing of his colorful film, "Bermuda." "Boy Scout Camporee" pictured an encampment of Boy Scouts in Fairmount Park. This was Adolph Pemsel's first effort in movie-making and shows promise of good pictures to come.

FRANCIS M. HIRST.

New Officers In Indianapolis

The Indianapolis Amateur Movie Club held its annual election at the meeting of December 16th, and the results were as follows: G. A. Del Valle, President; A. J. Thomas, Vice-President; C. Watzel, Secretary; A. F. Kaufmann, Treasurer, and E. M. Culbertson, Corresponding Secretary. The installation of the new officers took place at the banquet on January 9th. The entire dining-room was scheduled to be lighted to Super-X brilliancy to give any members who wished to take movies of the affair a chance to do so. The Club has not as yet been adversely affected by gas rationing, and the officers and members look forward to the best year yet in 1943.

ELMER M. CULBERTSON,
Corresponding Secretary.

Metro Parties Winners

The January meeting of New York's Metropolitan Motion Picture Club was planned as a party to honor Joseph J. Harley and Charles M. De Bevoise, first- and second-place winners in the Club's recent Annual Contest, and to enable the Club's thirty new members to become better acquainted with each other and the old-timers. Screen fare included Member De Bevoise's prize-winner, "Queens Is Ready," a dynamic picturization of Air Raid Precautions in New York's largest borough; 'How to Use Your Camera," from the Harmon Foundation; and "Three Episodes," with which Wallace W. Ward won honors in a "Photoplay Magazine" contest 'way back in 1929.

FRANK E. GUNNELL.

Long Beach Installs

The January meeting of the Long Beach (Cal.) Cinema Club was the group's Annual Installation Banquet. In spite of a very bad cold, Honorary Member William Stull, A.S.C., Editor of THE AMERICAN CINEMATOGRAPHER conducted the installation ceremonies, presenting the Presidential gavel to incoming President Claude Evans, and introducing Vice Presidents Mildred Caldwell and Pat Rafferty, Secretary Lorin Smith and Treasurer A. W. Nash. He also announced the winner of the Club's Annual Contest and presented them with their Certificates of Award. In the 8mm. division, first prize went to Lorin Smith for his film "Ceramics;" second place to Mildred Caldwell for "Behind the Scenes," and third prize to Earl Everley for "A Trip to Dreamland." In the 16mm. division Pat Rafferty won first prize for "Rebound Books with Brand-new Looks," while Clarence Aldrich captured both second and third places with "Oddettes," and "Fiesta," respectively.

The Club's January 20th meeting was opened with the pledge of allegiance to the Flag and the singing of the National Anthem, accompanied by a sound picture with words and music. Mrs. Caldwell reported on the success of the showing of films to men in the service, and President Evans, who is also Chief of the Fire Prevention Bureau, showed a film, "Guardians of the Home," which pictured Long Beach in its infancy, and fire equip-

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Free Films For Movie Club Programs

In response to numerous requests from program chairmen and other officers of amateur movie clubs, we list below the films from the library of THE AMERICAN CINEMATOGRAPHER which are available for showings at meetings of recognized movie clubs in the United States. These films are duplicates of some of the prize-winning films in THE AMERICAN CINEMATOGRAPHER'S International Amateur Movie Contests, and include some of the outstanding amateur films of all time. Winners of the Grand Prize are designated by an asterisk. Except where specifically designated as color, the films are in black-and-white, from black and-white originals.

Musical scores from phonograph records have been arranged for some of these films, and when requested, a listing of these records will be sent along with the films as a guide for clubs using this method of musical scoring. If the request is made sufficiently far in advance, an anlysis of the films will also be sent as a guide to study the factors which made each film outstanding.

These films are available to all recognized amateur movie clubs within the continental U.S.A., at no charge other than transportation from and to Hollywood by express or parcel post. The request for bookings should be made by the program chairman, president, secretary or other responsible officer of the club. Due to the unavoidable delays in wartime transportation, such requests should reach us not less than three weeks before the meeting at which the film is to be shown, and it is advisable to give an alternate choice in case one or all of the films requested have been previously booked elsewhere or delayed in transit from another booking.

SCENARIO FILMS (8mm.)

*"Red Cloud Lives Again"	(1 reel)	("Covered Wagon" type of Western.)
*"New Horizon"	(1 reel)	(Excellently-handled heavy drama of farm life.)
"Cattle Country"	(1 reel)	(Simple love-story in Western setting.)

(16mm.)

*"Tarzan, Jr."	(3 reels)	(Movie-within-a-movie in a boy's camp.)
"Prize Winner"	(1 reel)	(Well-handled homespun comedy.)
"Ritual of the Dead"	(1 reel)	(Horror melodrama, excellent acting and makeup.)
"Little Sherlock"	(1 reel)	(Amusing melodrama in a movie-maker's home.)
"Solar Pelexus"	(2 reels)	(H. G. Wellsian fantasy-satire on a mythical planet, filmed largely in miniature.)
"Nite Life"	(2 reels, color)	(Insomnia and a nightmare, trick photography.)
"I'd Be Delighted"	(1 reel)	(Story of a polite seduction, told in close-ups of hands and feet in sophisticated style.)
"The White North"	(1 reel)	(Snow-country melodrama; excellent sets and acting; indifferent photography.)
"Chronicle"	(1 reel)	(Biography of a boy from cradle to prison, told in close-up of hands and feet.)

TRAVEL FILMS (16mm.)

"Rice"	(3 reels)	(Life-story of a Korean peasant.)
"Beyond Manila"	(3 reels, color)	(Little-known parts of Philippine Islands.)
*"To the Ships of Sydney"	(1 reel, color)	(Poetic presentation of harbor of Sydney, Australia, in form of a ship-lover's will.)
"Chicago, Vacation Centre of the Nation"	(1 reel, color)	

DOCUMENTARY FILMS (16mm.)

*"Nation Builders"	(3 reels)	(One of the greatest amateur films made: comprises entire history of Australia.)
*"Doomsday"	(1 reel)	(Impressionistic film based on old superstition connecting solar eclipse with end of world.)
*"In the Beginning"	(2 reels)	(Reverent account of creation, with titles from Genesis.)
"Garden Life"	(1 reel, color)	(Unusual film, in stop-motion, showing flowers actually growing.)

PHOTOGRAPHY—EXTERIOR

"Early Summer"	(1 reel, 16mm.)	(These four pictures are all made by the same man, Tatsuichi Okamoto, of Japan. They all have some of the finest photography ever done by an amateur, and show Japanese life and thought.)
"Tender Friendship"	(1 reel, 8mm.)	
"Vanishing Autumn"	(1 reel, 8mm.)	
"Lullaby"	(1 reel, 16mm.)	
"Mt. Zao"	(1 reel, 16mm.)	(Extremely spectacular film of skiing in Japan.)
"The Brook"	(1 reel, 16mm.)	(Pleasant scenic of Australian countryside, titles from Tennyson's poem.)
"Moods of Nature"	(1 reel, 16mm.)	(The first film made by the English documentary film maker, Paul Burnford, A.R.P.S.)

HOME MOVIES

"Happy Day"	(1 reel, 16mm.)	(An English child's holiday at the seaside.)
"Another Happy Day"	(1 reel, 16mm.)	(The same child's Christmas.)
"Life"	(1 reel, 16mm.)	("Barefoot Boy" reminiscences of "Life—As You Remember It.")
"Mischief"	(1 reel, 16mm.)	(Amusing film of family pets—a cat, a Scottie, and a tame sparrow.
"Two Kids and a Pup"	(1 reel, 8mm.)	(Simple story of two children and their pet.)
"Santa Visits Elaine"	(1 reel, 16mm., color)	(Very clever Christmas film, with Santa Claus' visit highlighted by trick photography.)

MISCELLANEOUS

"Jello Again"	(½ reel, 16mm., color)	(Novelty, animated-cartoon made with Jello boxes.)
"200-inch Telescope"	(1 reel, 16mm.)	(Casting of the 200-inch telescope mirror, filmed by a Corning Engineer.)

Movie Clubs

(Continued from Page 64)

ment drawn by horses. The film was presented with narration and musical background. A 16mm. color-film on the launching of a Harbor Dept. fire-boat was also shown. "Sport Spellbinders," a fast-moving sound picture with action shots of various sports was shown by Clarence Aldrich, and Lorin Smith's "Yachting" was also enjoyed.

LA NELLE FOSHOLDT, Publicity.

Patriotic Films In Chicago

The January 7th meeting of the Chicago Cinema Club featured two patriotic films made by members. "Keep It Flying" by Member Allen proved a fine Kodachrome subject any filmer could make from his miscellaneous shots. Member I. Vise's "Victory Gardens," also in Kodachrome, showed his wife's struggling but victorious work at her Victory Garden.

BARBARA HUBBARD.

Photography of the Month

(Continued from Page 55)

purchased for release by United Artists. The print we saw gave us the impression that the camerawork and negative processing had, as might be expected, been planned to coordinate with the Paramount laboratory's printing standards, and that this coordination had been somewhat upset by release-printing in another laboratory.

THE GLASS KEY

Paramount Production.

Director of Photography: **Theodor Sparkuhl, A.S.C.**

"The Glass Key" is in some respects one of the best pieces of work we've seen come from the camera of Theodor Sparkuhl, A.S.C., in some time. A melodrama, he has photographed it in the crisp, modern manner, making considerable use of the current increased-depth technique. While in some sequences it seemed to us that he had carried his effect-lightings a bit too far, they are undeniably effective from both pictorial and dramatic viewpoints.

His treatment of the male players is excellent; the story gives him constant opportunity for presenting them in virile, and pictorially striking character-lightings. His treatment of Veronica Lake is rather uneven: in some sequences it is excellent, while in others it could certainly have been improved. In these latter scenes both he and the player were certainly not helped by the costumer, especially as regards the hat Miss Lake was forced to wear.

Telephotos

(Continued from Page 61)

some additional provision for rigidity if first-class results are expected.

For what we might call moderate-powered telephotos—say up to twelve or fifteen inches—probably all you'll need is some sort of an auxiliary brace like the one shown in the left-hand illustration. This is just a simple angle bracket, one end of which screws rigidly to the lens and supports most of its weight, while the other end locks into place between the camera and the tripod-head.

For more powerful telephotos, and particularly if you are using a rather lightweight camera like the magazine-type Bell & Howell shown fitted with a 20-inch lens in the right-hand picture, you'll do well to mount the lens firmly on the tripod, and then virtually hang the camera onto the lens.

When you come to the really high-powered telephotos, an even better mounting is one on the order of the one shown in the middle picture, in which a Vinten 35mm. camera is shown fitted to an *f*:8 Dallmeyer "Dallon" telephoto of 40-inch focal length. In this a long, extra-rigid mount, something like a small lathe-bed, is fitted to the tripod, with the lens rigidly supported at one end of the mount and the camera at the other, with a light-tight tube in between. Personally, by the way, I rather prefer a small bellows like that on a still-camera instead of a tube for an extreme telephoto mount like this.

Focusing and aligning telephoto shots bring up some more interesting little problems. Working with the ordinary one and two-inch lenses which are considered normal for 16mm. and 35mm. work, at the distances usually encountered in telephoto work, and at the stops usually used for exteriors, we can be pretty safe, in a pinch, in setting the lens at infinity, or better yet, at its hyperfocal distance and shooting, with reasonable assurance that practically everything in the field will be adequately sharp.

But as the focal length increases, this depth of field decreases, and decreases very sharply. If you set a 25mm. lens at 15 feet and stop down to *f*:8, everything from 4 feet to infinity will be acceptably sharp. With a 50mm. lens set at 20 feet, everything from 9½ feet to infinity will be adequately focused at *f*:8. But with a 6-inch lens at the same stop and focused at the hyperfocal distance (182 feet), the depth of focus has dropped off until your zone of adequately sharp focus extends only from 90 feet to infinity. With a 10-inch lens focused at infinity and stopped down to *f*:8, anything nearer than 520 feet from the camera will be badly out of focus.

Thus while with the lower-powered telephoto lenses you can work quite well by simply using the calibrated focusing scale on the lens-mount, for the higher-powered telephotos you'll need a decidedly more accurate means of focusing. If your lens is calibrated accurately in the higher ranges, you can sometimes solve this problem with an optical rangefinder if this, too, is calibrated to read accurately for telephoto distances. In at least one case I've known of a cinematographer who successfully built a Leica rangefinder into the finder of his Eyemo and interlocked it with the focusing of a 12-inch telephoto by means of gears and cams.

But your safest bet is to follow the professional method of focusing visually on a ground glass focusing screen, preferably through a magnifying eyepiece. With a 16mm. camera like the Cine-Special or the magazine-type cameras in which you can replace the magazine with a ground glass focusing attachment, this is easy. For other cameras and really long-focus lenses a good idea is to use a reflex-type focusing device like those sold for use with 35mm. miniature cameras and inserted in the long tube between the telephoto lens and the camera, like the one in the right-hand picture.

A device like this will be helpful in framing stationary shots, but if the subject is likely to be moving, you'll need an accurate finder so you can follow the action. I wouldn't advise trying to mask down an ordinary finder for this because while you may be able to mask it quite accurately, you'll end up by having such a small finder image that it is very difficult to follow accurately, especially on fast-moving action. Your best bet is to use a positive type finder like those on the Bell & Howell cameras, with the finder lenses so matched to the telephoto lens that they cover the same field of view and still give you a good, big image. Sometimes, as in the right-hand picture, a surveyor's transit can be adapted for this purpose.

An absolute essential to good telephoto camerawork is a really good lens-shade. Nine times out of ten the one that comes already fitted to the lens isn't nearly enough. Any lens-shade should be just as narrow and as deep as is possible consistent with keeping it from cutting into the lens' field.

This is especially necessary in the case of telephoto lenses. Most of them have front elements which are much larger than the front glasses of much faster ordinary lenses. These big glass surfaces—unless fully shaded—tend to pick up and reflect stray light-rays from outside the picture-area and kick them back into the picture in the form of scattered light which produces an effect on the picture similar to fog. That's one reason why most telephoto scenes are so much flatter than scenes made under identical circumstances with ordinary lenses. The simple addition of an adequately deep lens-shade will go an amazingly long way toward snapping up any telephoto shots.

Atmospheric conditions can give you a lot of trouble when you start shooting with a telephoto lens, too. Working in black-and-white, you can cut through ordinary aerial haze with a filter, but you can't filter out the ripply effect made by the heat-waves shimmering up from the ground on hot days.

Probably, back in the days when we all took our vacations by motor, you may have noticed how on hot days the distant pavement seemed to look as if it were covered with water. This isn't just an optical illusion: it is caused by

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the heat waves reflecting up from the hot ground and actually moving the air—in the literally physical sense—as they reflect upward. You can sometimes see the same thing above a hot stove.

Of course it photographs, giving a good deal the same effect that a diffusing screen would. Making pictures in Africa some years ago I noticed that this was particularly troublesome when we had to make telephoto shots with the camera comparatively close to the ground. If the camera was higher, shooting from a hill out over an open landscape, or even on a tree or parallel, the heat-wave ripples gave us much less trouble.

As I've said, you can cut through ordinary atmospheric haze with filters. In black-and-white, I'd recommend the Aero filters, which were made for this specific purpose. You'll get stronger haze-penetration with heavier filters like the G and the various red ones, and added contrast, too, but at the price of over-correction and a distorted tonal rendition of color values. If you want your telephoto scenes to intercut smoothly with other, normal shots, or to give a strictly normal black-and-white rendition of colors, keep away from filters except, at most, the Aeros.

In Kodachrome, the rule-books say to use the so-called "haze filter" for penetrating haze in distant landscape shots. But my personal preference is for the Pola-screen, which cuts through ordinary aerial haze just as well, if not better, since much of this haze is simply scattered or polarized light. And the Pola-screen doesn't change the color-rendition as the haze filter often does.

Finally, remember to keep your exposure correct, and your lens clean, and you'll have a good start on the way to mastery of telephoto camerawork.—END.

Films For War Effort

(Continued from Page 62)

the Rio Grande down to the Straits of Magellan.

Showings of pictures like these, whether to Service or civilian audiences, provides entertainment — and a great deal more besides, for they will help foster the understanding which is needed to cement the growing friendship of the peoples of the two Americas, who really have so much in common, in spite of the differences in language and superficial customs.

To facilitate the distribution of these pictures, Bell & Howell's Filmosound Library and many other similar organizations throughout the country are swinging into action with their already well-established systems of 16mm. film distribution. In addition, most of these libraries have available 16mm. prints of outstanding British, Canadian and other War Films which show the War Effort on both the fighting and the home fronts. And 16mm. prints of the latest newsreels from all the war fronts throughout the globe are constantly being rushed into readiness to bring to the 16mm. audience the current aspects of the common struggle.

Yes, the motion picture, so far, has more than lived up to the expectations of those who hoped the most for it. And the amateur, with his camera and with his projector, is doing his part in making the motion picture's War Effort a truly vital part of this world-wide war for freedom. END.

Prison Camp

(Continued from Page 51)

should be so suggestive of one of America's favorite movie comedians; it leads us too much to underrate him. Unbalanced he may be in the psychiatrist's sense of the term, and undoubtedly funny-looking from the American viewpoint: but that shouldn't keep us from realizing that he is a very dangerous opponent, who will demand every bit of our own strength, force and intelligence to defeat.

After this, I was one of the official news-camera crews assigned to cover first the Czechoslovak "incident," and later the opening of the war in Poland. Though we were photographing military operations in the field, we worked as civilians; it was only later—after the Polish campaign—that the Nazi news cameramen became soldiers.

Interestingly enough, for our work in the field we used largely American camera equipment—Eyemos taken over from the various newsreels, and occasionally a DeVry. Though the Germans had developed some types of hand-held movie cameras which, on paper at least, were excellent, they seemed to prefer the ruggedness and dependability of the American cameras for their field work.

It was during the start of the Polish campaign that the Nazi officials discovered I was an American. And let me assure you that Americans—particularly cameramen—were most decidedly not wanted as witnesses to what the Wehrmacht was doing. I was summoned to Berlin immediately. A year or so later I've no doubt that even though I was an American, and presumably neutral, I would simply have disappeared into a concentration camp. As it was, I was given the choice of going to a concentration camp or getting to H--- out of Germany within eight hours.

I left—gladly and quickly. It gave me an excellent opportunity of doing something I'd wanted to do—but couldn't—for some time.

Travelling the usual roundabout route of the wartime refugee, I finally got back to Paris. There I began to try to find some way of doing my part in the war. As I've said, I had already seen enough in Czechoslovakia and Poland to make me want to even things up with the Nazis. I tried to enlist in the French Army. But no, I was an American, and that might cause international complications. Then I tried the Foreign Legion. Being an American was no bar there, but I found I would have to enlist for something like ten years, and once in, there was no guarantee I'd be sent against the Germans; much more probably, they said, I'd be sent off to North Africa, or Syria, or even to French Indo-China for garrison duty. Somehow, keeping the Arabs or the Annamites in order didn't appeal to me. . . .

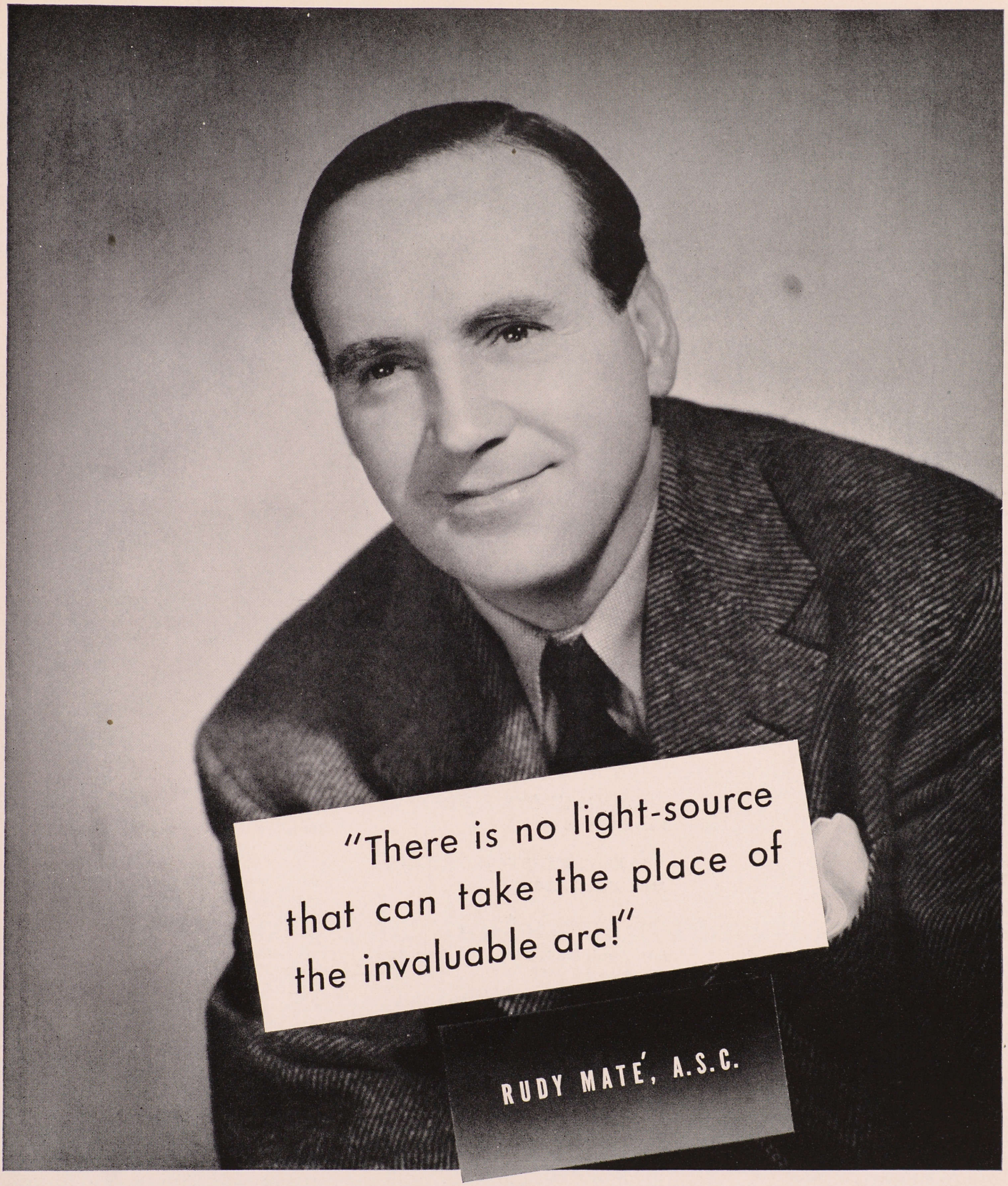
Finally I learned that a Franco-American Ambulance Corps was being organized. Driving an ambulance is technically non-combatant work, and as such was a perfectly proper occupation for a citizen of then-neutral America. I'd be up at the front where the Nazis were, and, well—after all, one never knows just what opportunities Lady Luck may bring. I enlisted as an ambulance-driver, and went off to the front at the wheel of a nice, new Dodge ambulance.

Those first several months of the war were what some people called the "Bore War," while France sat in fancied security behind her Maginot line, and the Germans mopped up unfinished business in the East. But there were skirmishes—little, unimportant actions that rated no more than a curt line or two in the newspapers. Just minor skirmishes. But they provided work for the ambulance drivers.

And don't think because an ambulance-driver's job is technically non-combatant that it's easy—or safe, especially when there are Nazis on the other side! Our first job whenever we moved into a new sector was to learn the road between the front-line dressing stations where we picked up our wounded, and the field hospital where we turned them over to the doctors. We had to know the road not only horizontally, but vertically: even though the war was at that time in a fairly quiet stage, the road would be under shellfire from the German lines. We had to learn just where the shell-holes were, and keep up with each day's new crop.

We did most of our actual work at night. The darker it was, the better for our purposes. We would load up our wounded, head the ambulance along the road, and drive like Hell. Without headlights. If we showed a light, the Nazis were almost certain to shell us. Even if their sound-detectors picked up too much of the noise of our motors, they'd shell us on general principles.

In some sectors, the roads were so close to the front lines that when they heard or saw us, the Nazis would turn their searchlights on us. In that glare of light the big red crosses on the ambulances stood out prominently, and made a perfect target. In a case like that, all you could do would be to shove the accelerator to the floor and make the best speed you could, through, as well as around the shell-holes, praying fervently that you'd manage to avoid getting in the way of a shell or piling up in an unseen shell-hole . . . and that the poor devils who were riding with you would get through alive in spite of the rough ride you had to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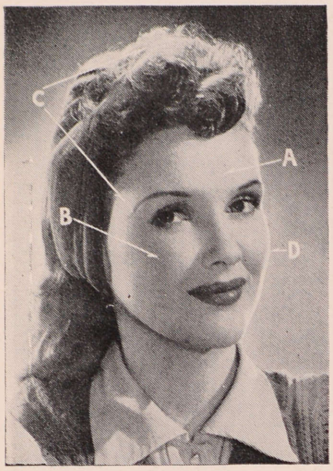

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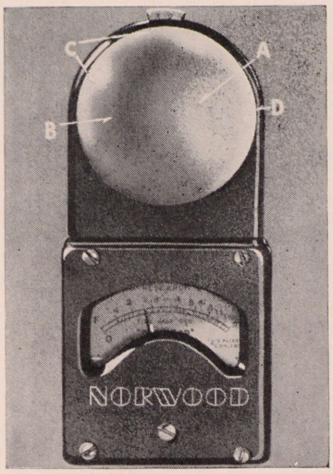

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give them.

Later on, as the Germans started their blitz against France, and the action became more fluid, we drove our ambulances day and night. Daytimes, the German aviators made it a particularly difficult job. The big, red crosses on the tops of our trucks must have made unusually inviting targets to the Nazi pilots. Any time there was a stray Jerry in the air you could expect almost any time to hear the unmistakable "brrp—brrrp—brrp" of a BMW engine, followed by the rattle of his machine-guns as he strafed you, and maybe bombed you as well, if he had any bombs to spare.

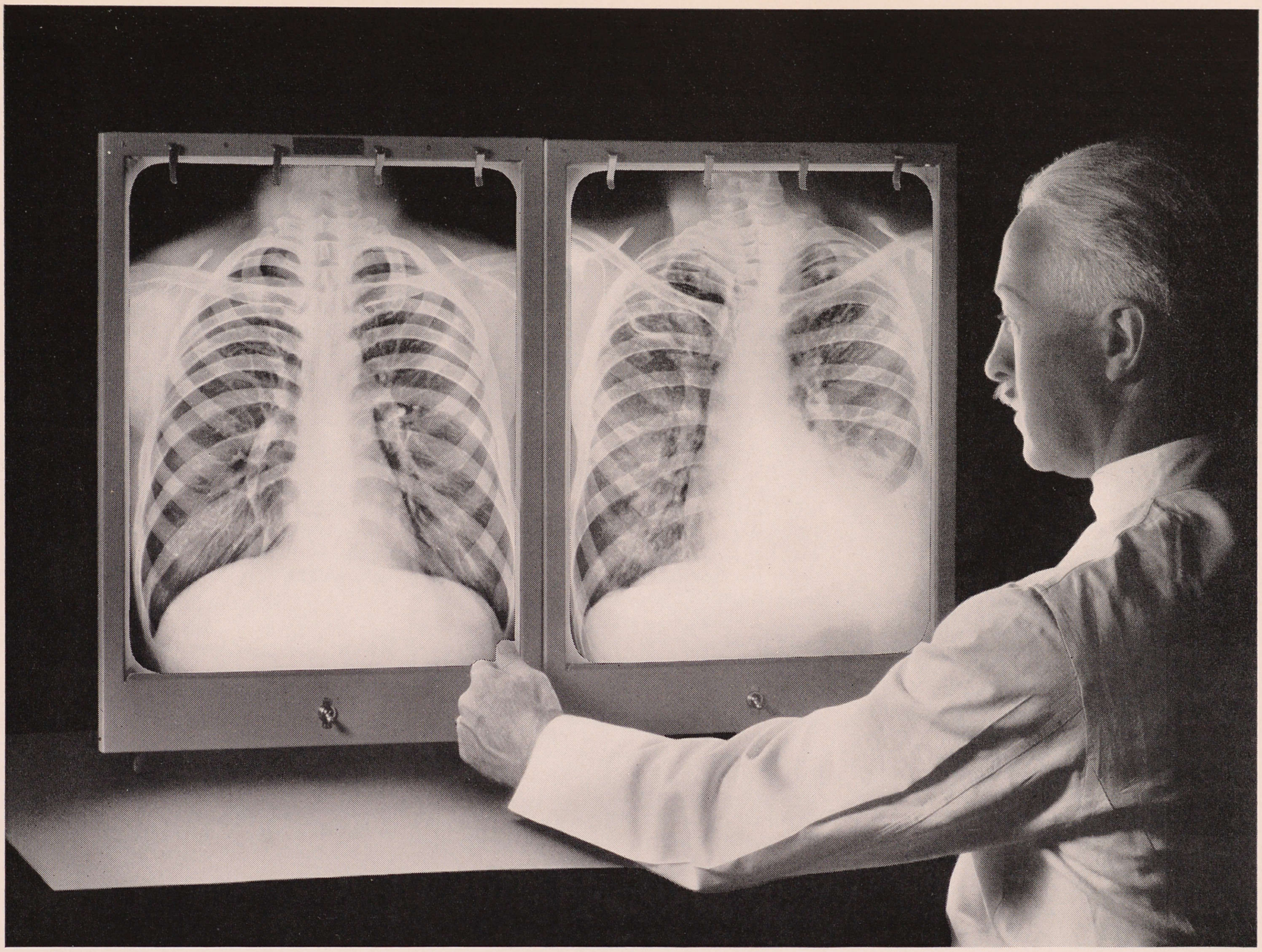
If you could, you'd stop and try to get your wounded passengers and yourself out and under the truck, where you had at least some protection. Sometimes you could do it. At other times —especially if your passengers were too badly wounded to get out—you just kept on going as best you could . . . hoping. I've often seen ambulances come limping in, riddled with machine-gun slugs, and with a cargo of dead men. Sometimes you just found the ambulance standing in the road, or lying in the ditch, its passengers and driver both dead. And it didn't seem to matter to the heroes of the Luftwaffe that often enough the wounded men in the ambulance might be Nazis as well as Poilus or Tommies. . . . I guess any unresisting target was fair game to the supermen from beyond the Rhine.

And then came the beginning of the end, when the Nazis broke through at Sedan. For us there began what seemed a nightmare that would never end. Retreat—retreat—retreat—each day amid greater confusion and a dull, gnawing spirit of hopelessness.

Finally I found my unit cut off from the army we were supposed to be serving, and headed toward Bordeaux. I was a Sub-Lieutenant then, in charge of twenty-five ambulances and their crews. And I wanted to get them through to Bordeaux before the Germans came.

We weren't far from our goal when we found ourselves running too low on gas to get there. We stopped to take stock of our situation; between the lot of us, we had about enough gas to enable one ambulance to press on ahead to a city where we could get the fuel we needed to take us to our goal. So we drained the remaining fuel into the tank of one of the ambulances, and the rest of the fellows crowded into it to press on while I stayed behind to stand guard over the other trucks. I never saw any of those boys again. I suppose they ran into the Germans, who were in front of us as well as behind and on both sides of us. But in due time I saw the Germans, and found myself a prisoner.

So back to Paris I went, as a prisoner of the Nazis. Since I wore the uniform of a French officer, I was at first lodged in the comparative luxury of one of the city's criminal prisons. That wasn't too bad. Most of us military prisoners still



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had some of the money we had had with us before our capture—but we weren't allowed to buy anything with it. The French criminals, who remained in the prison with us, had the privilege of buying things through friends on the outside—but no money to do it with. The obvious solution was quickly reached; the French jailbirds bought us what we wanted—with our money, of course—and saw to it that their own wants were taken care of, as well. They were quite honest about it, too; I don't think they charged any of us more than three or four times the actual cost of our purchases. After all, one expects to pay more under such conditions for the little luxuries of life. . . .

But this comparative idyll was soon spoiled. The Nazis again discovered that I was an American. Obviously, then, I had no place among these French prisoners. So I was transferred to a prison-camp for English officers.

The less said about this, the better. The Germans, you know, have no love for the English, and in this prison they made use of every opportunity to prove it. The winter of 1940-41 was one of the coldest in many years. Our sleeping quarters were well ventilated; our beds consisted of bare wooden benches. Such luxuries as blankets, pillows and heating, of course, were much too good to be lavished on Englishmen . . . we slept uncovered, on the bare benches, and liked it. By way of food, our captors would bring us in a bowl of colorless, lukewarm liquid. If it had a few potato-peelings floating around in it, we knew it was supposed to be soup. If it had an occasional—oh, so occasional!—shred of meat of questionable antecedents in it, we understood it was supposed to be stew. It tasted the same either way, and contained just as little nourishment. I don't know how we would have survived if the French villagers hadn't occasionally managed to smuggle us a few crusts now and then from their own all too scanty store. . . .

Eventually, through the efforts of the American Consulate and others, I found myself back in Paris, a free man. There's no space here to tell of my battles with Vichy-French bureaucrats who obviously considered that while I might have been good enough to bleed and die for France, I most certainly wasn't good enough to obtain a ration card without which no one in France could eat or clothe himself. But finally I managed to make my way out of France, and back to Free America. . . . I'll never forget what a sight the Statue of Liberty was as the ship steamed up the harbor towards New York's skyline.

Since then, I've had to spend a good deal of my time building myself up. Before that prison camp episode, I wasn't such a bad physical specimen. Today, you'd probably take one look at me and mentally classify me as the perfect "4-F." I'm not surprised that the Army doctors turned me down half-a-dozen times when I tried to enlist; malnutrition and lack of vitamins do that to you. But finally I managed to make the grade for enlistment in the Enlisted Reserve of the Signal Corps.

This last fall I passed through the training-school the A.S.C. and the Academy have been conducting for Signal Corps cinematographers. My past experience had given me a good deal of practical preparation for the job, but I found that men like John Arnold, A.S.C., and his staff could teach me a great deal which will make me a much better combat cameraman for Uncle Sam than ever I was for UFA.

And now I'm waiting my call to active duty as a U. S. Army cameraman. I don't know what sort of a job it will be, or where: but I hope it will take me up to one of the fronts across which I'll again face the Nazis. If it does—well, an Army cameraman is a soldier first and a cameraman incidentally, and maybe luck will be with me again and give he a chance to do some shooting with something besides a camera! END.

Free Wheeling

(Continued from Page 57)

resort country, with the high Presidential Range climbing into the sky.

Here we seemed quite alone—rationing of tires and gas had made its inroads on the traffic, and summer tourists were very, very few. Untouched forests and grand mountain views greeted us on every hand as the miles rolled behind. Usually at 11 a.m. it became necessary to stop for Douglas's nap. If we neglected to do so, very soon he would fall asleep in his seat! So time out for rest for all, or to wander nearby . . . often to make movies.

Off again, we entered the Franconia Notch Region not far from Bette Davis's Sugar Hill home, wound around mountain-held Echo Lake down to Indian Head to enjoy the comforts of cottages by a lake and stream.

One day we pedalled only 11 miles, another 22. Our record day of 51 miles was accomplished in a little less than 12 hours. Another adventure came while hiking a long up-grade, a trucker engaged in hauling pulp logs asked us if we'd like a lift.

We accepted. So onto the empty truck we piled, bikes and all. You probably realize how well mountain folks know their own country so I need not mention that we slipped around some of the corners, rose off the "deck" often when rough spots rolled under the heavy dual wheels, and arrived at a junction in less than a half-hour, having 15 miles to our credit! We managed to thank our host but we did not feel fully gathered together for some time after his truck had rumbled out of sight!

Turning off onto a spruce and balsam lined road we filmed shots of ourselves pedalling along. After a bit of practice, it is not so difficult to take a scene or two from your bike, one-handed, of the rest of the party as you catch up or ride

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along with them.

Scenes of our sojourn on Lake Winnepesaukee and Winnisquam took us from wheels to boating, bathing and fun in the sun.

In two weeks we rode 210 miles on the bikes and 400 miles by train and withal brought back a film record which will keep alive our summer of 1942 for the duration, and long years after. And we discovered something we're sure many other cinefilming cyclers will also learn as time goes on: that when you tour the country in leisurely bicycle fashion, you really see more of the country than you do when you whiz through by motor at the usual pre-war touring speeds. You find yourself taking better advantage of picturemaking opportunities, too, for things you'd never notice (at least not enough to make you stop the car) when driving through at fifty or sixty per become much more evident when you approach them at bicycling speed—especially as they offer an inducement to stop pedalling for a moment while you make pictures! END.

Sound Camera

(Continued from Page 56)

film, a four-to-one reduction lens mounted in a microscope adjustment rack was placed between the slit and the sound roller.

The recording lamp was mounted in a lamphouse fitted with suitable condensing lenses and placed at the back of the recording unit. A ruby pilot-light was mounted at the left-hand side of the box to indicate whether or not the recording light is working.

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To insure constant speed, a sound-camera must of course be motor-driven. Working in houses, and in most industrial plants and offices, the regular 110-Volt alternating current from the city power lines is usually available, so a standard 110-Volt synchronous motor is generally used.

But making exteriors "on location," this 110-Volt A.C. is not always available, so a second motor, operated by direct current, was also provided. It is interchangeable with the A.C. motor. In order to get constant speed from this D.C. motor, a speed-control was mounted on one end of the shaft.

On location where 110-Volt power is not available, the D.C. motor is quickly put into place, and then two 12-Volt batteries supply all the power necessary to operate the camera, amplifier and exciter-light. A 6-Volt converter supplies the 110-Volt current necessary to operate the amplifier.

As will be seen from the illustrations, a belt-drive transmission is used to convey the drive from the motor to the camera. The motor is belted to a pulley on the side of the sound housing. From this, a second belt runs upward to a large pulley equipped with a flywheel and fastened to the camera's hand-crank shaft by a bracket which attaches to the screw sockets originally provided to fit the auxiliary gearboxes, motor-drive unit, etc., to the Model A. From this point a third belt extends upward to drive the take-up on the external, 300-foot magazines fitted to the top of the camera.

The entire outfit—camera (including the recording assembly beneath it), motor, and all, are mounted on a rigid steel plate base which is in turn attached to the tripod. The tripod itself was constructed along professional lines, and is as large and rigid as though intended for a 35mm. outfit. In order to give a solid support to the weight of the camera (60 lbs.) and to insure steady panning, a heavy thrust bearing is used in the tripod-head.

It must be admitted that this outfit lacks the streamlined professional finish of the commercially marketed 16mm. sound-camera outfits. With its various externally mounted gadgets it has rather the look of some of the very early, more or less experimental 35mm. single-system sound cameras. But even though a choosy industrial designer might find fault with its "home-made" appearance, it works—and very successfully. We proved that in the making of a full feature-length Western picture in Kodachrome, with lip-synchronized dialog, sound-effects and musical background. After all, audiences don't judge a picture by the appearance of the equipment that made it, but by the quality of the picture they see on the screen, and the sound they hear from the loudspeakers. And when, as in this case, you can add to successful performance the pleasure of having planned and made the outfit yourself—well, what more could you ask? END.

48 Years of Home Movies

(Continued from Page 60)

but because at last they had the three great essentials without which home movies could not be successful. They had the safety of acetate-base film. They had the economy of narrow-gauge film and the reversal process. And they had the simplicity of almost foolproof design and spring-powered operation.

At the same time in France, another home movie standard which also incorporated these essentials was born. This was the 9.5mm. "Pathex" system introduced by Pathe. This system also used reversal film, but of 9½mm. width, and single-perforated, with the single perforation in the center of the film between the frames, much like that of the earlier 17½mm. "Biokam" (Figure 4).

Due to the still narrower width of the 9.5mm. film, the "Pathex" system was even more economical than 16mm., yet because of the center perforation principle, the 9.5mm. frame was only very slightly smaller than the 16mm. frame.

This standard was introduced in this country about the same time 16mm. was; but because the American Pathex organization was working far from its base of supplies, and could not service the cameras well with either repairs or film, it never became popular here.

On the other hand, it has become extremely popular abroad, not alone in Europe, but in most other foreign regions, including Asia, Africa and Australia. As recently as two years ago, a survey made in England showed that there were more 9.5mm. outfits in use there than the combined totals of 16mm. and 8mm. equipments. It may surprise some American readers to know that European users of "nine-five" have for

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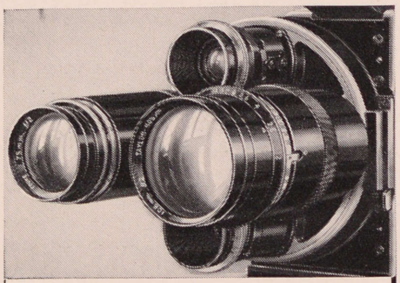
several years had color, in the form of 9.5mm. Dufaycolor, and even sound-on-film available to them.

The 17½mm. standard has by no means died, either. You will remember that when the Pathe organization launched their "Pathescope" 28mm. standard, they were more than a little influenced by a policy of establishing a standard which would be exclusively their own and would not only provide an outlet for their own films, but would also prevent the use of any but Pathe films on their equipment. So as they saw the dawning possibilities of 16mm. for educational use, the Pathe executives dragged the old split-35 standard of 17½mm. from its grave, and established a system known as the "Pathe Rural."

This is strictly a matter of making projectors—so far as we know, no 17½mm. cameras have been marketed commercially for more than twenty years—and of providing both educational and entertainment films for them from the Pathe libraries. So successfully has this system been promoted, at least on the home grounds, that the 17½mm. "Pathe Rural" is the standard of the French educational system, and Pathe, of course, has a virtual monopoly on supplying both films and equipment. Naturally, during the last eight or ten years, 17½mm. sound-on-film projectors and films have been available.

And since the birth of 16mm., twenty years ago, another amateur standard—8mm.—has been perfected. It brought with it further drastic reductions in expense and yet, thanks to a decade's progress in camera, projector and lens design and emulsion chemistry, surprisingly little loss in photographic quality.

So today—almost exactly twenty years after the introduction of 16mm. as the "ideal" medium for home movies, we find a new and yet smaller film-standard taking its place as the home movie standard, while 16mm. goes increasingly professional. And why not, since direct 16mm., with modern emulsions and modern high-powered incandescent and arc projectors, can compete on almost even terms with 35mm. on even the biggest theatre-size screens, and if necessary be enlarged to 35mm. prints for theatrical or commercial use, while 8mm. reduces the costs of home moviemaking to less than one-tenth that of 35mm.? END.



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Phil Tannura

(Continued from Page 52)

apprenticeship in the studio's motion picture film laboratory, learning how to mix chemicals, to wind and unwind film from the developing-racks and drying drums, and eventually how to develop negative and to make prints.

After a thorough grounding in this, during which, in a brief period of a few months, he worked his way through all the various departments of the lab, he felt he was at last ready to go out on the set and begin to learn how to shoot a movie camera. And he began to pester his chief for a chance to do so.

"That," he says, "paid dividends. The third or fourth time I hit him for a camera job, my chief gave me a reply I didn't expect. 'You're a persistent little son-of-a-gun, aren't you?' he said. 'I'm going to fire you . . . Come back tomorrow and we'll see if we can make a cameraman out of you!'

"So the next morning I reported for work as an assistant cameraman. I spent about six months at that job, and then right in the middle of a picture the cameraman I was assisting fell sick. In the ordinary course of events, some other First Cameraman would have taken over the picture and finished it. But the man I'd been assisting had other ideas. 'Give Little Phil a chance,' he said. 'He'll finish the picture darn near as well as I'd do.'

"So there I was, a full-fledged First Cameraman. I don't know whether or not I finished the picture as well as my former chief would have done, but at least I finished it, and everyone seemed pleased enough to keep me on as a First Cameraman.

"At that time the Edison Company had quite a variety of irons in the fire. One of them was making educational movies for Thomas Edison's close friend, Henry Ford. And as I was the newest and youngest cameraman on the lot, making these pictures fell to me, in between grinding out my quota of the Edison Company's lesser features. Eventually, I was assigned almost exclusively to making the Ford Educationals.

"In that job, I had a lot of interesting experiences. I travelled all over the country, wherever material for these educational reels was to be found. And I had the unique experience of being the only official cameraman assigned to cover the mission of the famous Ford 'Peace Ship' which, carrying a tremendous cargo of high-minded notables, went to Europe in 1915 in the altruistic hope of ending World War I in time to 'get the boys out of the trenches by Christmas.'

"Of course that mission failed, just as a similar mission to end this war before the final defeat of Nazism and all it stands for would fail today. But I had chalked up several months of new and valuable experiences which were a liberal education to me.

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"And when I got back to the studio, I found a new management in charge. The new managers were beginning to realize that motion pictures were an art as well as a profitable form of money-making entertainment. They were all for new ideas in everything.

"That suited me right down to the ground. Ever since I'd found myself as a First Cameraman, I had experimented constantly. Under the previous, more conservative management, that had gotten me in the 1915 version of the doghouse often enough. But with the new management, it set me solidly in favor. Almost before I knew it, I found myself the 'ace' cameraman of the studio, getting assigned to the biggest and best pictures.

"As the studio chief put it, 'I like you, Phil, because you're always trying for something new. When you fail, I'll admit it's sometimes pretty terrible—but when your experiment clicks, it's often brilliant. And you seem to succeed oftener than you fail.'

"Then came America's participation in the War. I tried to get into the Marine Corps, but got turned down—officially because I was a few inches too short to make what they considered a good leatherneck, but actually, so I learned later, because some of the studio brass hats pulled some political strings to keep me in mufti. Then I tried the Signal Corps, and was accepted. The next few years were devoted largely to grinding a camera as a member of the Siberian A.E.F.

"When I got home after the armistice, I ran into the problem I hope our boys who have gone into the Service in this war won't encounter: I couldn't get a job. I'd been off the screen for nearly three years, and everyone had forgotten me. Still in uniform, I tramped from one studio to another, and everywhere they gave me a reception that indicated clearly that they thought I was just another ex-soldier crank-turner who had never had any studio experience.

"The first job I got was as cameraman for an exploring expedition the Brazilian Government sent out to find a fabled 'lost city'—if it was still there. I was on this expedition for more than six months, and later the officials told me I was the only North American or European ever to have gone so far into the jungles. We penetrated even farther than Teddy Roosevelt did on his celebrated expedition to the River of Doubt. Starting from Manaos we reached the Matto Grosso, and then worked East and North and finally back to Manaos.

"When I got back to New York, I found I was still a forgotten man as far as the studios were concerned. Finally I landed a job—as Second Cameraman for a man who before the war had been my assistant!

"Once I got that foothold, I managed in time to work my way up to the position of First Cameraman again. And in the early 20's, as I saw the industry moving out to the West Coast, I, too, decided to move to Hollywood.

"There it was another battle to gain recognition. I did independent 'quickies' and Westerns for producers and stars who are now forgotten. It was a period of working heartbreakingly long hours with indifferent equipment, and for precious little money. It was a saying in those days that if a 'quickie' had a seven-day shooting schedule it meant seven days and seven nights of shooting; and that gag wasn't very far from being the literal truth!

"It was my fondness for experimenting that finally took me out of that class of work. In those days a Western usually meant ultra-crisp photography with *f*:64 definition and a soot-and-whitewash contrast which had to be seen to be believed. I tried the experiment of shooting for softer, more pictorial quality. I opened up my lens, even on exteriors. I used reflectors more, and played around with filters.

"And one day Charles Ray—one of the big stars of the day, and at that time producing his own pictures—happened to catch one of my obscure little Westerns.

"The next day I got a call from him. 'If you can get that sort of quality in Westerns,' he said, 'you're good enough to shoot for me.' And up to the time he retired from the screen, I did."

From there, Tannura went to the FBO Studio, the forerunner of today's RKO. He stayed there until after the coming of sound in 1929-30.

Then producer Robert Kane came to him with a proposition to go to Europe. At that time, remember, sound had killed the world-wide foreign market. Previously, all that had been necessary to fit a picture for foreign distribution had been to replace the English titles

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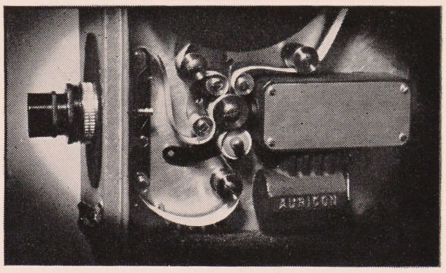

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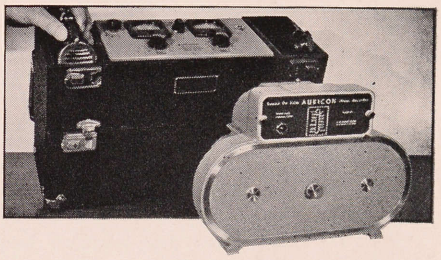

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with titles printed in the language of the country where the film was to be shown. That way, the silent screen could effectively "speak" any language—French, Swedish, Hungarian, Turkish, Arabic, Bengali, or what have you. But when the actors really began to speak, and the words came out in English from a sound track, it was different.

Kane had the idea of going to Europe to make foreign-language versions of American movies, using casts of foreign actors. He wanted Tannura to go with him as his right-hand man. Later "Little Phil" learned that a very important contingent factor in obtaining the financing for the deal had been getting Tannura to go with it!

So, in 1929, Tannura and Kane left Hollywood for Europe, armed with a contract to make foreign-language versions of Paramount's Hollywood-made films.

In this job, Phil Tannura found himself serving as a great deal more than a mere cameraman. First of all, he was Production Manager of the studio, and saw to the plant's physical and financial operation. He scoured Europe for players who could be cast in the parts played in the Hollywood versions by Jeannette MacDonald, Buddy Rogers, Kay Francis, Paul Lukas, and the rest of Paramount's stellar personalities.

In his spare time, he directed and photographed the pictures. Often he would make as many as 14 different foreign-language versions of a single picture.

This work was done in Paris. At first Kane and Tannura worked in one of the many French rental studios, renting stage space, offices, cutting-rooms, and everything else needed for production. But so successful was their work that before long the Paramount foreign executives decided that they would build their own studio. And Phil had the task of laying out and building Paramount's French studio at Joinville-sur-Seine, and of seeing to it that it was equipped with the best of modern production equipment. Then for several years he had charge of the Joinville studio's operations, which were on a constantly increasing scale.

In time, the physical and nervous strain of the responsibilities of managing the studio, producing the pictures and in addition directing and photographing most of them, proved too much for Tannura. He asked to be relieved of the load, at least while he rested up for a while.

So, by way of vacation, he was sent to England to photograph one of Paramount's quota of English-made features, while somebody else shouldered the responsibilities of producing and directing it.

This was a lucky move for him, for while he was in England two developments occurred which eventually put a quietus to Paramount's foreign-version production. One of these was the development of the technique of "dubbing in" voices, by which other actors could record the dialog in appropriate foreign languages to synchronize with the lip-movements of the English-speaking Hollywood players.

This in time was developed to such perfection that even when you saw a "dubbed" version of a film featuring players you knew could speak nothing but English, the illusion and synchronism were so perfect you felt almost certain your actor had suddenly learned how to speak flawless French, or Hungarian, or Arabic.

The second was the fact that Paramount, having over-expanded at home, was forced into bankruptcy, and had to suspend its foreign production operations.

So until shortly before the outbreak of World War II Tannura remained in England, as one of Britain's top cinematographers. He played an important part in the planning and construction of Alexander Korda's big studio at Denham, and of several of the other modern British studios, as well. He was one of a group of American cinematographers who played an important part in the re-birth of the British film industry, and especially in the fight to bring both technical standards and salaries for British cinematographers into closer parity with those in Hollywood.

In this, he remembers, one of the biggest obstacles was provided by German cinematographers. Some of them were refugees from the Nazi terror, but others—well, looking back on it, he wonders. They came to England from the studios of Berlin, and were always ready to take any possible job away from an Englishman or American at half-price salaries . . .

Since his return to Hollywood Tannura has been almost constantly under contract to the Columbia Studio, and assigned to direct the photography of some of the firm's most important features. There's quite a bit of rivalry between some of Columbia's top feminine stars as to who should be photographed by Tannura.

And in between the big pictures, he's received assignments to plenty of Columbia's short-schedule, low-budget program films. And while some cinematographers try to dodge these "B" productions, Tannura rather likes them. "They're hard work," he says, "but they give you a chance to experiment in ways you can't do on the bigger 'A' productions.

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"I don't mean by this that I take these less spectacular assignments as an opportunity to go hog-wild on photographic experiments. That wouldn't do at all, for a badly-photographed program picture stands just as much to a cameraman's discredit as a badly-photographed 'A' production.

"But on the big productions, you know there's such an investment involved in production costs, stellar reputations, and the like, that you tend to be cautious. On 'B' pictures, it's different. There isn't nearly so much at stake, so once you've gotten an idea worked out in your head to the point where you feel it's practical, you can afford to try it out in actual production. If it works out as expected, you've added something valuable to your professional repertoire; if it doesn't quite ring the bell, there's not too much lost as long as the scene is still commercially usable.

"To my mind, the so-called 'B' pictures and short-subjects ought to be recognized as the industry's proving-ground for both new talent and new ideas. Plenty of 'A' picture acting and directorial talent have already come up from these stepchildren of the industry. But all of us—producers, writers, directors, and cinematographers—could do a lot more than we are doing to make the program films a proving-ground for new ideas as well. END.

P-38

(Continued from Page 49)

ley matched-lens finder to the Special. We made a C-shape adapter to fit around the rear of the Special. The bottom of the C screwed onto the tripod in the usual way, and the Special was, in turn, fitted to this bracket.

On the top of the C we mounted my Akeley matched-lens finder with its pivoted eyepiece and magnifier. The mount was arranged so that the lens of the finder was accurately aligned directly above the camera lens. Since we were working at infinity focus, once we got the two units aligned for infinity, we didn't have to worry about finder parallax. And the construction of the bracket left the magazine side of the camera clear, so there was no interference with quick changing of magazines.

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Matching the lenses of camera and finder for this type of infinity-focus camerawork was fortunately fairly easy. The horizontal angle of the 50mm. lens which is the "normal" lens in 35mm. work is 25 degrees; the angle of the 25mm. lens which is the correspondingly "normal" lens in 16mm. work is 21.2 degrees. So for our purposes a 50mm. (2-inch) lens in the finder served quite satisfactorily when shooting with the 25mm. lens on the Cine-Special. In the same way, when we used a 2-inch lens as a telephoto on the camera, we used a 4-inch lens on the finder. This gave me, so far as the finder was concerned, the same convenience of operation I'd been accustomed to in my 35mm. work.

The choice of a tripod was another problem. I used my regular Akeley gyro head mounted on a high-hat which was in turn bolted to a wooden support rigidly mounted in the open door of the camera plane. But—the Akeley head was designed to work with a much bigger and heavier 35mm. outfit. When the little Cine-Special was placed on it, there literally wasn't enough weight there to offset the pull of the counterbalancing springs which were tensioned to hold a 35mm. camera in perfect equilibrium. You had to watch it constantly or those overly-powerful springs would jerk the camera downward. And in starting and stopping on pans and tilts, the overpowered springing, designed to compensate for the weight of a heavier camera, would give you jerky pans if you weren't everlastingly careful.

The perfect solution would have been a tripod designed for professional use with a lightweight camera—but there wasn't one available. A lightweight friction head like Frank Zucker's "Professional Junior" would have made things a lot easier for us . . . and I kicked myself enthusiastically when I remembered that while I was in London before the war I had seen—and almost bought—a lightweight gyro tripod specially made by Vinten to go with a lightweight camera like the 35mm. Newman-Sinclair I brought back with me. Several times, after hops where we had to follow particularly difficult action, I had Flinsky deliver a couple of extra kicks on my rear for having been so foolish as to leave that tripod in London!

But once these problems were out of the way, the rest of the job was a pleasure, for Lockheed and the Army certainly gave us everything we could possibly have asked for. Our camera ship was a speedy Lockheed "Lodestar" transport—first cousin to the famous "Hudson" bomber—and our subject, of course, was the P-38 "Lightning" pursuit, flown for us by Lockheed's Chief Test Pilot, Milo Burcham, who is without doubt the best P-38 pilot in the world. He ought to be—he's test-flown practically every P-38 that has come off Lockheed's busy production lines!

The Army made arrangements so we could fly our scenes anywhere we wanted to along the coastal airway between Los Angeles and San Diego, and inland into the Mojave desert, and at any time we felt the weather was right for our purposes.

Producer Burden cooperated, too, by letting us wait until we felt the weather conditions were just right to give us perfect shots. I've seen major-studio production executives with schedules and budgets twenty or thirty times as generous as his complain bitterly over that waiting for weather. But not Shirley Burden! He wanted things *right*—and he knew that having the right

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atmospheric and cloud conditions meant the difference between getting just ordinary aerial scenes, and getting perfect ones.

His patience was well rewarded. Right after the Christmas holidays we had a little spell of rain, followed by several days of absolutely perfect weather for aerial camerawork—clear, blue skies with just the right amount of pictorially puffy, white clouds, so that we could get over a real impression of the "Lightning's" speedy flight. We flew and shot like mad while the weather lasted, and got everything in the bag. I don't think the scenes could have been any better if we'd had Technicolor and a million-dollar budget.

In this part of the work, I can't say enough about Milo Burcham. I always knew he was a fine pilot—but I didn't really appreciate just how good he was until I saw him put that P-38 through its paces.

In all that we were helped immeasurably by having an intercommunicating telephone on the camera-ship, so that we could talk freely to our pilot, and two-way radio so that we could talk with Burcham while we shot. Of course we always planned every evolution out carefully before taking off—usually diagramming out each shot, and making sure that everybody concerned knew just where the camera-ship and the P-38 would be every second, and just what flight path each would follow.

I couldn't help thinking what a big improvement it was over the way we worked in the early days of air movies, when we strapped ourselves into open-cockpit planes, with no way of communicating with either our pilot or the pilot of the other ship, and had to trust solely to pantomime, planning, and big gobs of luck to get our shots and bring us back with a whole skin!

Yes, there's a lot of water gone under the bridge since those early days of "Hell's Angels" and "The Great Air Mail Robbery." There's a difference in our movie-making materials and methods, and in the planes we fly. And there's no less of a difference between the reasons for making these various pictures. I was proud to have worked on Hollywood's first aerial entertainment movie, and on its biggest ones. But I'm a good deal more proud of this little 16mm. job which has the much bigger purpose of helping train the thousands of pilots coming from our Air Force training schools how to fly an all-American pursuit ship which has already outflown and outfought the best Germany and Japan have to offer! END.

Television

(Continued from Page 47)

collecting thirty-five cents admission in cash at the box office and American business leaders know it. Television will not have this direct income and, therefore, will not challenge the superior film product."

"Television will, in effect, collect its thirty-five cents in cash because no matter how excessive the cost, the sponsor will simply tag the extra cost onto the sale price of his product to the consumer."

"No matter how good television gets, people will still be gregarious, they will still like to 'go out' to the movies."

"People will sit at home and drop a quarter in a meter and see a Metro, Fox, Universal, Paramount or Columbia picture transmitted from a central point over the air to sixty million people in a week's time."

"Theatres will have large-screen television and pay extra to see special events and news."

And so forth, and so on.

My views, which as this welter of opinion shows, may be worth very little, are these: Television will injure the film industry just as radio has injured it—by keeping people at home looking at television programmes without any apparent, immediate cost. Television day-time dramatic material will be on a low production level—like small film company programme features, only serialized. They will cut deeply into the female matinee film audience. Television evening programs, other than dramatic shows, will not be much more of a draw than similar radio programs are at present—which is plenty, even though it hasn't emptied the theatres.

Evening dramatic shows will not try to imitate film technique but will be billed as plays. The angle will be "Television brings Broadway to your living room." And I think this angle may give the film industry a run for its money.

Anybody who has seen a live television play in a private home can testify that the effect could be that of the living quality of the theatre combined with the unique intimacy of the film. A well-acted, well-produced, two or three set play, aided by rear projection and film inserts, will be a devastating experience to the television skeptic.

As for the television treatment of news, it will be entirely possible to network each day's news-events on film, with film sequences and the live personalities connected with these sequences cut into a master-controlled presentation, from twenty different locations, from coast to coast, and possibly continent to continent. In short, it will replace the present-day newsreel.

In conclusion, I think television will compete with the film industry to a considerable extent. Beyond that, and more significant to the readers of this magazine, I think the film industry will adjust itself by entering the television field—as sections of it have already begun to do. That is why I have spent so much time in this initial article on the possible functions of the cameraman in the new art. It is, I believe, an art which, potentially, can combine the special characteristics of radio, the theatre, and the motion picture into an incredibly effective whole. END.

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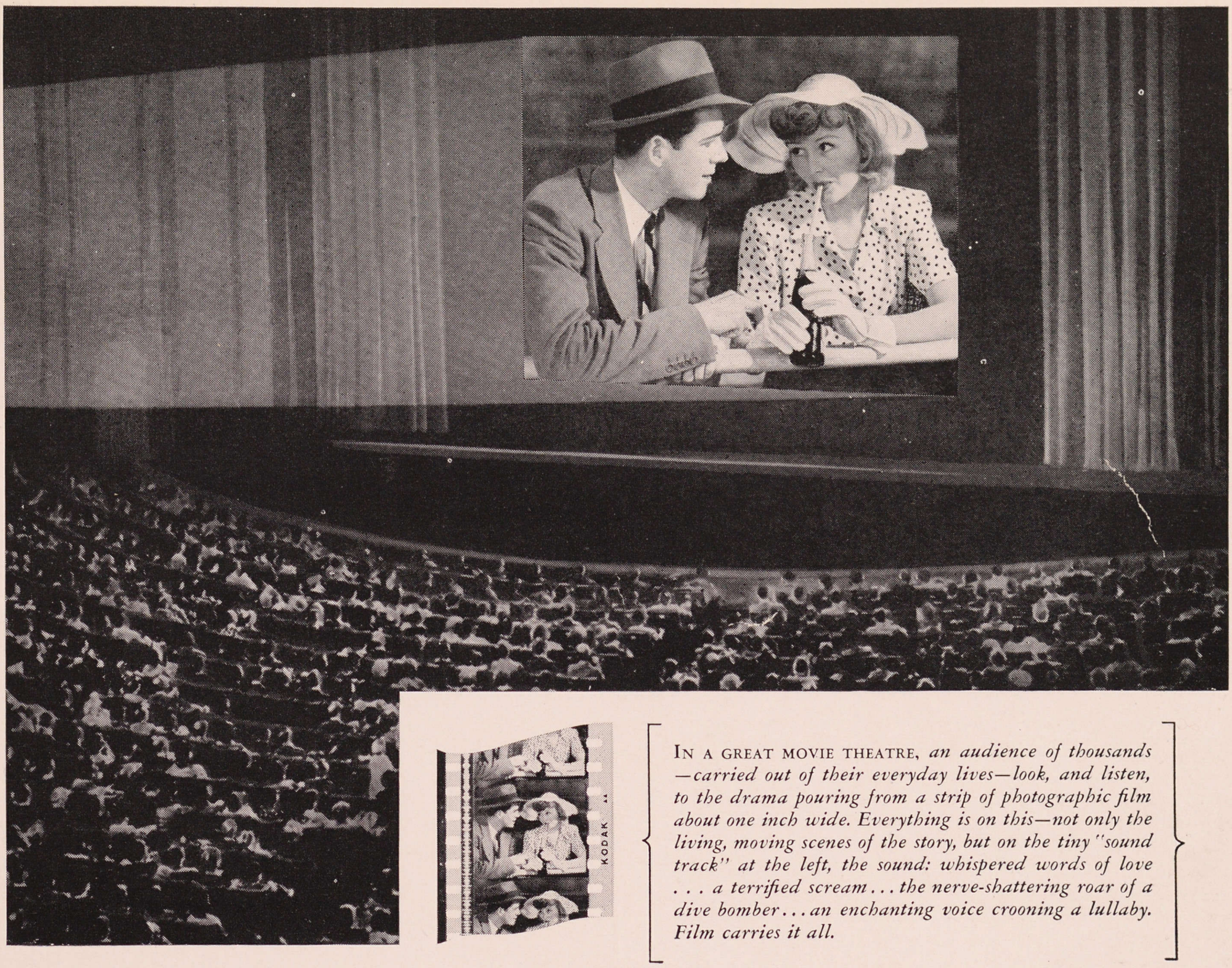

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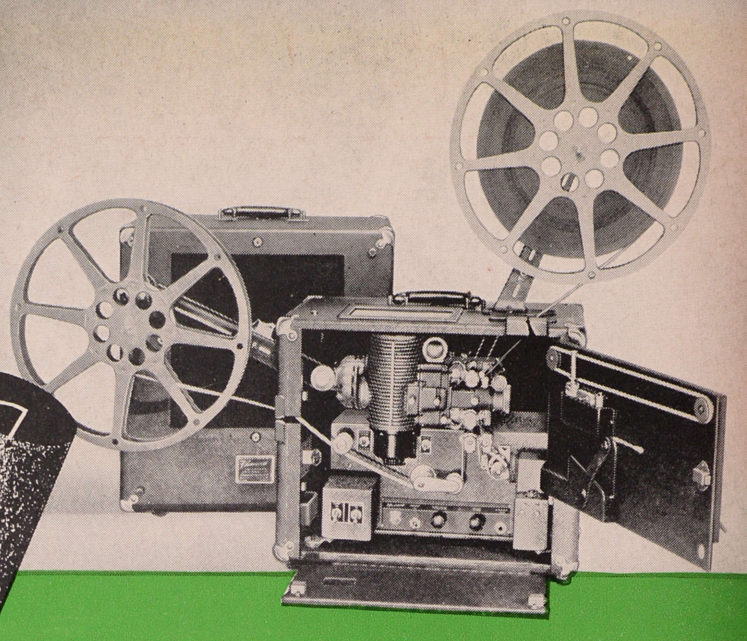

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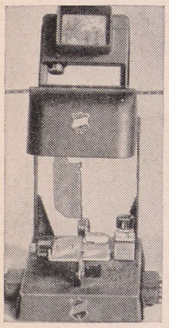

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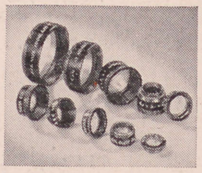

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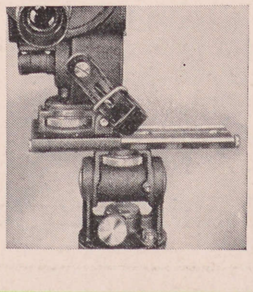

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